

# **EXHIBIT 2**

**to T-Mobile's Responsive Claim Construction Brief**

UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION

-----x  
KAIFI LLC, ) Case No.  
Plaintiff, ) 2:20-CV-281-JRG  
v. )  
T-MOBILE US, INC., and )  
T-MOBILE USA, INC., )  
Defendants. )  
-----x

REMOTE VIDEOTAPED DEPOSITION OF  
THOMAS L. BLACKBURN  
THURSDAY, APRIL 29, 2021

9:00 A.M. PACIFIC DAYLIGHT SAVINGS TIME

Job No.: 193224

Reported by: Leslie A. Todd, CSR No. 5129 and RPR

<p style="text-align: right;">Page 2</p> <p style="text-align: center;">A P P E A R A N C E S</p> <p>ON BEHALF OF PLAINTIFF:</p> <p>MATTHEW HAWKINSON, ESQUIRE</p> <p>HAWKINSON YANG</p> <p>5670 Wilshire Boulevard</p> <p>Los Angeles, California 90036</p> <p>ON BEHALF OF DEFENDANTS:</p> <p>AUDREY YANG, ESQUIRE</p> <p>ROBERT VINCENT, ESQUIRE</p> <p>GIBSON DUNN &amp; CRUTCHER</p> <p>2001 Ross Avenue</p> <p>Dallas, Texas 75201</p> <p>ALSO PRESENT:</p> <p>MARK VON LANKEN - Videographer</p>	<p style="text-align: right;">Page 3</p> <p style="text-align: center;">C O N T E N T S</p> <p>EXAMINATION OF THOMAS L. BLACKBURN PAGE</p> <p>By Ms. Yang 6</p> <p style="text-align: center;">E X H I B I T S</p> <p>(Attached to transcript)</p> <p>BLACKBURN DEPOSITION EXHIBITS PAGE</p> <p>Exhibit No. 1 P.R. 4-3(B) Disclosure of Potential Testimony from Thomas L. Blackburn 11</p> <p>Exhibit No. 2 P.R. 4-3(B) Disclosure of Potential Rebuttal Testimony from Thomas L. Blackburn 16</p> <p>Exhibit No. 3 Declaration of Thomas L. Blackburn in Support of Opening Claim Construction Brief by KAIFI LLC 18</p> <p>Exhibit No. 4 CV of Thomas L. Blackburn 21</p> <p>Exhibit No. 5 Memorandum Opinion and Order in KAIFI LLC vs. AT&amp;T Corp., et al. case 37</p> <p>Exhibit No. 6 Declaration of Brian T. Kelley, Ph.D. in KAIFI LLC vs. AT&amp;T Corp., et al. case 38</p>
<p style="text-align: right;">Page 4</p> <p style="text-align: center;">E X H I B I T S C O N T I N U E D</p> <p>(Attached to transcript)</p> <p>BLACKBURN DEPOSITION EXHIBITS PAGE</p> <p>Exhibit No. 7 United States Patent No. 6,922,728 (Cho) 47</p> <p>Exhibit No. 8 Article entitled "Towards a Flexible Split for Cloud-RAN Networks," by Andreas Maeder, et al. 97</p> <p>Exhibit No. 9 Article entitled Mobile Agent-Based Performance Management for the Virtual Home Environment," by C. Bohoris, et al. 99</p> <p>Exhibit No. 10 Technical Specification: 3GPP TS 22.121 V4.0.0 (2000-10) 100</p> <p>Exhibit No. 11 Article entitled "Distributed Router Architecture for Packet-Routed Optical Networks," by Michael Düser, et al. 102</p> <p>Exhibit No. 12 Article entitled "DHARMA: Distributed Home Agent for Robust Mobile Access," by Yun Mao, et al. 106</p>	<p style="text-align: right;">Page 5</p> <p style="text-align: center;">P R O C E E D I N G S</p> <p>-----</p> <p>THE VIDEOGRAPHER: Good morning, Counselors. My name is Mark Von Lanken. I am a certified legal videographer in association with TSG Reporting, Inc.</p> <p>Due to the severity of the COVID-19 and following the practice of social distancing, I will not be in the same room with the witness. Instead, I will record this videotaped deposition remotely.</p> <p>The reporter, Leslie Todd, also will not be in the same room and will swear in the witness remotely.</p> <p>Do all parties stipulate to the validity of this video recording and remote swearing, and that it will be admissible in the courtroom as if it had been taken following Rule 30 of the Federal Rules of Civil Procedures and the State's rules where this case is pending?</p> <p>MR. HAWKINSON: Yes, we do.</p> <p>MS. YANG: Yes, we do.</p> <p>THE VIDEOGRAPHER: Thank you.</p> <p>This is the start of media labeled number 1 of the video recorded deposition of</p>

<p style="text-align: right;">Page 6</p> <p>1 Thomas Blackburn, in the matter KAIFI, LLC, versus</p> <p>2 T-Mobile U.S. Inc., et al., filed in the United</p> <p>3 States District Court for the Eastern District of</p> <p>4 Texas, Marshal Division, Case No.</p> <p>5 2:20-cv-281-JRG-RSP.</p> <p>6 This deposition is being held remotely</p> <p>7 on Thursday, April 29th, 2021, at approximately</p> <p>8 9:02 a.m.</p> <p>9 Counsel, would you please introduce</p> <p>10 yourselves.</p> <p>11 MS. YANG: I'm Audrey Yang from the firm</p> <p>12 Gibson, Dunn &amp; Crutcher, and I'm here to represent</p> <p>13 defendants.</p> <p>14 MR. HAWKINSON: Matt Hawkinson of</p> <p>15 Hawkinson Yang on behalf of KAIFI and</p> <p>16 Mr. Blackburn.</p> <p>17 THE VIDEOGRAPHER: Would the court</p> <p>18 reporter please swear in the witness.</p> <p>19 THOMAS BLACKBURN,</p> <p>20 and having been first duly sworn,</p> <p>21 was examined and testified as follows:</p> <p>22 EXAMINATION</p> <p>23 BY MS. YANG:</p> <p>24 Q Good morning. Could you please state</p> <p>25 your name for the record.</p>	<p style="text-align: right;">Page 7</p> <p>1 A Thomas L. Blackburn.</p> <p>2 Q And how are you doing this morning,</p> <p>3 Mr. Blackburn?</p> <p>4 A Okay.</p> <p>5 Q Where do you live?</p> <p>6 A I live in San Jose, California.</p> <p>7 Q And are you participating in this</p> <p>8 deposition from your residence?</p> <p>9 A Yes.</p> <p>10 Q Is there anyone else in the room with</p> <p>11 you right now?</p> <p>12 A No.</p> <p>13 Q Is there anyone else at your residence</p> <p>14 with you right now?</p> <p>15 A Yes.</p> <p>16 Q Could you tell me who is there?</p> <p>17 A My wife, my daughter, and two cats.</p> <p>18 Q What forms of communication do you have</p> <p>19 open with your attorney?</p> <p>20 A E-mail and voice -- phone call.</p> <p>21 Q All I -- oh, sorry. Go ahead.</p> <p>22 A And -- and voice calls.</p> <p>23 Q All I ask is that any communications</p> <p>24 with your attorney during the deposition must be</p> <p>25 on the record. Okay?</p>
<p style="text-align: right;">Page 8</p> <p>1 A Yes.</p> <p>2 Q Have you had your deposition taken</p> <p>3 before?</p> <p>4 A Yes.</p> <p>5 Q How many times?</p> <p>6 A In patent cases, probably at least six</p> <p>7 times.</p> <p>8 Q And when were those depositions?</p> <p>9 A I had two taken last year via Zoom,</p> <p>10 and -- and then before that, they were, you know,</p> <p>11 in -- in a location where everybody was present.</p> <p>12 Q What did you do to prepare for your</p> <p>13 deposition today?</p> <p>14 A I reviewed the -- the declaration and</p> <p>15 the disclosures that I prepared. I reviewed</p> <p>16 the -- anything to do with the -- the court</p> <p>17 documents that were -- were recorded that deal</p> <p>18 with the claim construction. And I reviewed the</p> <p>19 patent, the '728 patent.</p> <p>20 Q Did you speak with anyone in preparation</p> <p>21 for your deposition today?</p> <p>22 A Yes. Not today.</p> <p>23 Q Who did you speak with to prepare for</p> <p>24 your deposition?</p> <p>25 A Matt Hawkins.</p>	<p style="text-align: right;">Page 9</p> <p>1 Q And you understand that you are under</p> <p>2 oath today just as if you were testifying in front</p> <p>3 of a jury in the courtroom --</p> <p>4 A Yes.</p> <p>5 Q -- is that correct?</p> <p>6 Since we're doing this deposition</p> <p>7 remotely, let me just run through a couple of</p> <p>8 ground rules for the day. Is that okay?</p> <p>9 A Yes.</p> <p>10 Q Please make sure you give audible</p> <p>11 answers since nodding or shaking your head cannot</p> <p>12 be reflected on the record. Okay?</p> <p>13 A Yes.</p> <p>14 Q Let's try to speak one person at a time</p> <p>15 so the court reporter can transcribe your</p> <p>16 testimony accurately. Okay?</p> <p>17 A Yes.</p> <p>18 Q Also to help the court reporter, let's</p> <p>19 try to speak slowly and clearly.</p> <p>20 A Yes.</p> <p>21 Q Okay. To account for a possible lag in</p> <p>22 internet connectivity and to make sure we don't</p> <p>23 talk over each other, I will pause to make sure</p> <p>24 you finish answering your question before I ask my</p> <p>25 next question, and I would ask that you extend the</p>

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1 same courtesy to me.  
 2 Does that work?  
 3 A Yes.  
 4 Q If I ask a question that you don't  
 5 understand, please ask me to clarify that question  
 6 so that your answer will be clear for the record.  
 7 A Yes, I will.  
 8 Q If at any point in the deposition you  
 9 realize a prior answer you gave is incorrect or  
 10 incomplete, please let me know so we can revisit  
 11 that question.  
 12 A Okay.  
 13 Q I will try to take a break at least once  
 14 an hour, but if you need a break at any time for  
 15 any reason, please let me know, and we will take a  
 16 break. I only ask that you answer the pending  
 17 question before we start the break.  
 18 A Okay.  
 19 Q Is there any reason you cannot give  
 20 truthful and accurate testimony today?  
 21 A No.  
 22 Q Do you have any documents in front of  
 23 you today?  
 24 A I have the documents I printed out  
 25 because I wasn't sure how we were going to get the

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1 BY MS. YANG:  
 2 Q Have you received it in the chat window?  
 3 A Yes.  
 4 Q Okay. Let me know when you're -- you  
 5 have it open.  
 6 A I'm trying to open it.  
 7 Q Okay.  
 8 A For some reason it says I'm not  
 9 authorized to look at it or something. I don't  
 10 know. Let's see here.  
 11 Okay.  
 12 Q Are you familiar with this document?  
 13 A Yes.  
 14 Q Did you write this document?  
 15 A I -- I wrote it. It's -- it's my  
 16 testimony. It was -- it was written or formatted  
 17 in conjunction with -- with Matt Hawkins as far as  
 18 any -- any pasting, copying, formatting, that was  
 19 done by Matt Hawkins. But in -- in the document,  
 20 the opinions in that document are my opinions.  
 21 Q When did you start working on your  
 22 declaration?  
 23 A The declaration or this disclosure?  
 24 Q This disclosure.  
 25 A I started working around the first week

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1 documents or how I would look at them, so I  
 2 printed out the -- the patent and the disclosures  
 3 and the declaration.  
 4 Q So besides the patent and your own  
 5 declarations, do you have any other papers in  
 6 front of you?  
 7 A Well, my desk is full of papers.  
 8 Q The documents that you have printed out  
 9 for this case, the patent and the disclosures, do  
 10 you have any notes written on them?  
 11 A I might.  
 12 Q Do you have any other sort of notes in  
 13 front of you today for this deposition?  
 14 A I can -- they're kind of spread out. I  
 15 can just throw them away if you want. I mean, I  
 16 can put them in a pile somewhere. They're laying  
 17 on my desk.  
 18 Q Okay.  
 19 MS. YANG: Okay. I'm going to upload a  
 20 document titled P.R. 4-3(B) Disclosure of  
 21 Potential Testimony from Thomas L. Blackburn, that  
 22 was served in this case, which will be marked as  
 23 Exhibit 1.  
 24 (Blackburn Exhibit No. 1 was  
 25 marked for identification.)

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1 in March. So it was -- it was put together in  
 2 about a week and a half of when it was issued.  
 3 Q How many hours would you approximate  
 4 that you spent working on this disclosure?  
 5 A Maybe 20 hours.  
 6 Q Did you review this disclosure before it  
 7 was submitted?  
 8 A Yes.  
 9 Q How many times would you say you  
 10 reviewed your disclosure before it was submitted?  
 11 A There were probably ten or fifteen  
 12 drafts that went back and forth between myself and  
 13 Matt Hawkins and the group, and changes were made.  
 14 A lot of the changes were -- were cut and paste of  
 15 previous -- previous drafts. And so I probably  
 16 reviewed -- you know, I reviewed all the drafts.  
 17 I -- I reviewed the -- this final draft before it  
 18 was submitted.  
 19 Q Did you work with anyone else besides  
 20 your attorneys on this declaration?  
 21 A No.  
 22 Q In preparation for your deposition  
 23 today, did you review this disclosure?  
 24 A Yes.  
 25 Q How many times did you review this

<p style="text-align: right;">Page 14</p> <p>1 disclosure in preparation for your deposition 2 today?</p> <p>3 A Probably once or twice.</p> <p>4 Q Did you see any errors in your 5 disclosure?</p> <p>6 A There was an error in this first 7 disclosure that I found later after it was issued, 8 and the error was accounted for in the rebuttal 9 disclosure that was issued shortly after this 10 disclosure.</p> <p>11 And in my opinion, it was just a -- a 12 copy and a paste. Because I -- I had looked at so 13 many drafts and they were pretty much all the 14 same, and so when I reviewed this final draft, I 15 just -- I missed the -- the two or three 16 paragraphs that were in error. And it turned out 17 in -- in discussing that with Matt Hawkins as we 18 were working on this -- on the rebuttal draft 19 that it was -- it was somehow related to a copy 20 and paste error.</p> <p>21 Q And what was that copy and paste error?</p> <p>22 A It was just that the -- when I indicated 23 that what the -- what the court -- how the court 24 had construed a term, and how KAIFI had construed 25 a term, it was not what it should have been. So</p>	<p style="text-align: right;">Page 15</p> <p>1 it was -- it was -- it was taken from some past 2 draft, and it was not correct.</p> <p>3 Q So are you saying that you copied and 4 pasted that disclosure from a past draft?</p> <p>5 A I didn't copy and paste it.</p> <p>6 Q Who did the copying and pasting?</p> <p>7 A It was done on the attorney's side when 8 the --</p> <p>9 Q And the copy and pasting from the past 10 draft, was it a past draft of your disclosure?</p> <p>11 A No, I'm saying it wasn't a copy and 12 paste of a draft. It was a copy and paste of 13 probably the -- the court's construed construction 14 of the terms, the -- you know, in the analysis. 15 And the -- the document that was issued by the 16 court, somewhere along that line, it was just -- 17 it was a -- it was a cut and paste that -- that 18 pasted the wrong information.</p> <p>19 Q Besides this error that you corrected in 20 your rebuttal disclosure, did you find any other 21 mistakes?</p> <p>22 A No, it was just -- it was just those 23 two -- two or three paragraphs that -- that were 24 corrected.</p> <p>25 Q And do you recall which paragraphs</p>
<p style="text-align: right;">Page 16</p> <p>1 exactly were in error?</p> <p>2 A I believe it -- I'm looking at it here, 3 it's the -- the term "indoor network." And it was 4 specifically -- I think it was, it looks like, 5 paragraph 34, 35, and 36.</p> <p>6 Q So besides paragraphs 34 through 36, 7 there are no other mistakes that you found in your 8 declare- -- in your disclosure?</p> <p>9 A Nothing that I found, no.</p> <p>10 MS. YANG: Okay. I'm uploading a 11 document titled P.R. 4-3(B) Disclosure of 12 Potential Rebuttal Testimony from Thomas L. 13 Blackburn, served in this case, which will be 14 marked as Exhibit 2.</p> <p>15 (Blackburn Exhibit No. 2 was 16 marked for identification.)</p> <p>17 BY MS. YANG:</p> <p>18 Q And just let me know once you have that 19 document open.</p> <p>20 A Okay, I have it.</p> <p>21 Q Are you familiar with this document?</p> <p>22 A Yes.</p> <p>23 Q Did you write this document?</p> <p>24 A This is the same as the first 25 disclosure. I wrote it as far as all the opinions</p>	<p style="text-align: right;">Page 17</p> <p>1 and introduction, experience, conclusions, and it 2 was formatted and put together by Matt Hawkins and 3 the team. Again, all the opinions are my 4 opinions.</p> <p>5 Q About how many hours did you spend on 6 this rebuttal disclosure?</p> <p>7 A Again, I would say maybe 20 hours.</p> <p>8 Q When did you begin working on your 9 rebuttal disclosure?</p> <p>10 A This would have been after Mr. Rysavy's 11 deposition. So toward the end of -- sometime 12 toward the end of March.</p> <p>13 Q How many times did you review your 14 rebuttal disclosure before it was submitted?</p> <p>15 A A couple of times.</p> <p>16 Q In preparation for your deposition 17 today, did you read your rebuttal disclosure?</p> <p>18 A Yes.</p> <p>19 Q How many times did you read your 20 rebuttal disclosure in preparation for the 21 deposition today?</p> <p>22 A At least a couple of times.</p> <p>23 Q Do you recall seeing any errors in your 24 rebuttal disclosure?</p> <p>25 A No.</p>

<p style="text-align: right;">Page 18</p> <p>1 Q Whose idea was it to prepare a rebuttal 2 disclosure?</p> <p>3 A That would have been the attorneys, Matt 4 Hawkins and -- and the group.</p> <p>5 MS. YANG: I am going to upload a 6 document titled Declaration of Thomas L. Blackburn 7 in Support of Opening Claim Construction Brief by 8 KAIFI LLC, which will be marked as Exhibit 3. 9 (Blackburn Exhibit No. 3 was 10 marked for identification.) 11 THE WITNESS: Okay.</p> <p>12 BY MS. YANG:</p> <p>13 Q Are you familiar with this document?</p> <p>14 A Yes.</p> <p>15 Q Did you write this document?</p> <p>16 A Yes.</p> <p>17 Q About how many hours did you spend 18 writing this doc- -- this declaration?</p> <p>19 A Oh, 10 or 15 hours.</p> <p>20 Q When did you begin working on this 21 declaration?</p> <p>22 A I would say sometime around April 10th 23 to April 15th.</p> <p>24 Q How many times did you review this 25 declaration before it was submitted?</p>	<p style="text-align: right;">Page 19</p> <p>1 A A couple of times.</p> <p>2 Q In preparation for your deposition 3 today, did you review this declaration?</p> <p>4 A Yes.</p> <p>5 Q How many times did you review this 6 declaration in preparation for your deposition 7 today?</p> <p>8 A At least a couple of times.</p> <p>9 Q Whose idea was it to file a third 10 declaration with a claim construction brief?</p> <p>11 MR. HAWKINSON: Objection. Form.</p> <p>12 BY MS. YANG:</p> <p>13 Q You may answer.</p> <p>14 A The -- it was -- again, it was the -- 15 the attorneys and the group, Matt Hawkins, who -- 16 who decided to do this.</p> <p>17 Q Are there any differences between this 18 declaration and the first two disclosures you 19 submitted?</p> <p>20 MR. HAWKINSON: Objection. Form.</p> <p>21 THE WITNESS: I would have to go through 22 and compare them, but I don't think -- I mean, the 23 opinions are the same. My conclusions are the 24 same. So I would say it's -- it's generally the 25 same.</p>
<p style="text-align: right;">Page 20</p> <p>1 BY MS. YANG:</p> <p>2 Q You prepared this declaration, though; 3 is that correct?</p> <p>4 A Yes. Again, let me -- I -- it's my 5 opinions, my conclusions. I pre- -- again, the 6 background and experience, the -- that -- and the 7 materials considered, that's -- that's my input. 8 And the legal standards and things were put in, 9 put in by the attorneys. It -- the -- the 10 document itself was -- was formatted and put 11 together by the attorneys. But all the opinions 12 and conclusions are -- are mine.</p> <p>13 Q And so, to your knowledge, are there any 14 differences in the opinions that you have given 15 between this declaration and the first two?</p> <p>16 A As far as the -- the claim construction 17 that I was asked to analyze and opine on, there 18 was no difference other than the error that we 19 discussed in the first disclosure, which was 20 corrected in the rebuttal disclosure, but the -- 21 everything else is the same, all the conclusions 22 and opinions.</p> <p>23 Q And besides correcting that error from 24 the first disclosure, are there any other errors 25 in this declaration?</p>	<p style="text-align: right;">Page 21</p> <p>1 A No.</p> <p>2 MS. YANG: Okay. I'm uploading a 3 document which is a copy of the CV of Thomas L. 4 Blackburn. It was attached as an exhibit to 5 KAIFI's opening claim construction brief in this 6 case, Docket 135-10. So it will be marked as 7 Exhibit 4. 8 (Blackburn Exhibit No. 4 was 9 marked for identification.) 10 THE WITNESS: Okay.</p> <p>11 BY MS. YANG:</p> <p>12 Q Are you familiar with this document?</p> <p>13 A Yes.</p> <p>14 Q What is it?</p> <p>15 A It's my CV, curriculum vitae.</p> <p>16 Q Did you prepare this document?</p> <p>17 A Yes.</p> <p>18 Q Where did you get your bachelor's 19 degree?</p> <p>20 A From San Jose State University.</p> <p>21 Q And what did you major in?</p> <p>22 A Electrical engineering.</p> <p>23 Q Based on your CV, you've done graduate 24 work; is that correct?</p> <p>25 A Yes.</p>



<p style="text-align: right;">Page 22</p> <p>1 Q Can you tell me about the graduate work 2 you did?</p> <p>3 A Yes. When I was working at GTE, General 4 Telephone Electronics, they were located about two 5 miles from Stanford University, and they had an 6 agreement with Stanford University to -- to do 7 offsite classes. So they would either -- through 8 microwave or whatever was available at the time, 9 they would pipe in the classes from Stanford into 10 the auditorium at GTE.</p> <p>11 And so as an engineer, I had the 12 opportunity to take various courses in -- in 13 various technologies. So I could take courses 14 in -- in antenna design, microwave design, you 15 know, computer design, whatever I wanted to do, 16 and -- and it was graduate courses. The graduate 17 courses were not courses that would be -- you 18 know, I could not use credent- -- you know, 19 courses to -- for a master's degree. They were 20 just courses offered by Stanford. Same -- same 21 classes that were offered to graduate students at 22 Stanford, but without the credential of a master's 23 degree. So I probably took six or eight classes 24 from Stanford in the various disciplines.</p> <p>25 Q Did any of these disciplines include</p>	<p style="text-align: right;">Page 23</p> <p>1 telecommunications?</p> <p>2 A Yes. They pretty much all did.</p> <p>3 Q And so you took these graduate classes, 4 but you mentioned that you didn't receive a 5 graduate degree; is that correct?</p> <p>6 A That's correct.</p> <p>7 Q Based on your CV, you have 37 issued 8 patents; is that correct?</p> <p>9 A I think that's correct, yes. Could be 10 more than that. I don't...</p> <p>11 Q Are any of these 37 patents issued to 12 you in the same field as the '728 patent?</p> <p>13 MR. HAWKINSON: Objection. Form.</p> <p>14 THE WITNESS: Several of the patents 15 relate to the transfer of data information from a 16 cellular system, and the techniques that were 17 described in the patent that I -- the patent -- my 18 patent were to increase the data speed of the data 19 transfer by using different types of modem 20 algorithms and, you know, features.</p> <p>21 So I -- I think those particular patents 22 would apply to, you know, cellular systems that as 23 they migrated from -- from 3G to 3.5G to 4G with 24 higher speed data rates.</p> <p>25 BY MS. YANG:</p>
<p style="text-align: right;">Page 24</p> <p>1 Q And can you point me to which of the 37 2 patents you just described that would include 3 techniques to increase data speed?</p> <p>4 A I don't know without going back and 5 looking at them. But I do reference one, I 6 believe, in the either disclosure or declaration 7 that it -- has to do with data speed. I can -- I 8 can look that up if you would like.</p> <p>9 Q Sure. Yeah, take a look at your 10 declaration, and if you can point me to where you 11 mentioned that patent.</p> <p>12 A (Peruses document.) I don't see it. I 13 don't know where it was -- where I inserted it.</p> <p>14 Oh, there it is right there. Okay, 15 it's like in the declaration on page 2, it looks 16 like page -- no, I don't know what page it is. 17 It's in the -- it's in the Background and 18 Experience section on paragraph 13, where it says 19 I've been awarded 37 U.S. and foreign patents, 20 several were related to tech -- to cellular 21 technologies, including modulation techniques and 22 channel allocation. For example, U.S. Patent 23 6,556,638 describes a method for increasing the 24 data speed in a network, cellular network.</p> <p>25 Q Besides the '638 patent that you've</p>	<p style="text-align: right;">Page 25</p> <p>1 mentioned here in paragraph 13, are you aware of 2 any other patents that have been issued to you 3 that relate to the field of -- same field as the 4 '728 patent?</p> <p>5 MR. HAWKINSON: Objection. Form.</p> <p>6 THE WITNESS: Not offhand, I don't.</p> <p>7 BY MS. YANG:</p> <p>8 Q Based on your CV, you have 30 years of 9 experience in the field including cellular, 10 wireless technologies and telecommunications; is 11 that correct?</p> <p>12 A That's correct.</p> <p>13 Q So your experience spans back to about 14 1990 then; is that correct?</p> <p>15 A Actually, it's -- it's further back than 16 that. I graduated in the mid-'70s, so it would be 17 25 plus -- it's actually -- so it's 40-plus years. 18 Got to update it.</p> <p>19 Q Throughout your 40-plus years of 20 experience, would you agree that you've worked 21 with many key players in the cellular, wireless 22 technologies and telecommunications industry?</p> <p>23 A I didn't catch -- that I worked with 24 what?</p> <p>25 Q Many of the key players in the cellular,</p>



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1 wireless technologies and telecommunications  
2 industry.

3 A What do you mean by "key players"?

4 Q As an expert in the field, can you tell  
5 me what some of the -- the key players in the  
6 industry would be, so some of the main companies  
7 that worked in cellular, wireless technology and  
8 telecommunications?

9 A I've worked on a number of cases, both  
10 patent cases and class action lawsuits that  
11 involved Apple, and specifically the -- the Apple  
12 handset and how it is designed to operate with the  
13 various cellular systems, 3G, 4G.

14 And I've also worked in patent cases  
15 both for and adverse to some of the carrier --  
16 carriers such as, you know, AT&T, Verizon. Those  
17 cases that would have been adverse to all those --  
18 so I was working for probably the -- the  
19 patentholder, and they had filed patent  
20 infringement against some of the carriers for --  
21 anywhere from messaging format, SMS messaging and  
22 MS -- MMS messaging protocols and formats to  
23 handover between cellular systems, and modulation  
24 techniques for the base station transceiver.

25 So a whole variety. So I probably

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1 in the cellular, you know, handset design, network  
2 design, you know.

3 Q Okay. Can you think of any other  
4 companies that you have worked with?

5 A Well, I can just go through my CV. You  
6 know, I see HTC Corporation. RIM Corporation.  
7 Again, Apple.

8 And in my CV, I have not listed every  
9 single case I ever worked on. Some cases I worked  
10 on, you know, claim construction, and then either  
11 the case settled, so I didn't -- I didn't continue  
12 working with them. And then other cases, it was  
13 right up to through trial for infringement and  
14 validity.

15 Q So besides the companies that you've  
16 listed today and the ones that are listed in your  
17 CV, are there any other companies that stand out  
18 to you that you've worked with?

19 A I was -- I was -- another company was --  
20 around 2000 to 2005 called Eschelon. They built  
21 smart meters. They had a contract with Duke  
22 Energy to build a -- a cellular junction box. And  
23 so what -- what the -- the devices on the house,  
24 the smart meters would -- would transmit data to  
25 this -- this box which contained cellular

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1 reviewed and looked at upwards of a hundred  
2 different specifications for the 3GPP and 3GPP2.  
3 And those would have been for, you know, GSM and  
4 UGPS and CDMA type systems.

5 Q Okay. So you named Apple, AT&T and  
6 Verizon as some companies that you have worked  
7 with in the past.

8 Are there any other companies or key  
9 players that you can think of that you've worked  
10 with in this field?

11 A I worked with a company called Mobility  
12 Works, which deals with patents in the cellular  
13 technologies, and they were a company that buys  
14 portfolio -- you know, patent portfolios from  
15 companies like Ericsson and -- and Nokia. And so  
16 I would have went through the various patents and  
17 decided which patents were viable for asserting  
18 patent infringement against -- in this case it  
19 looks like with T-Mobile -- Mobility Works versus  
20 T-Mobile.

21 And I worked for, it looks like, Nokia  
22 Corporation and Huawei Technology, you know, a  
23 cell phone manufacturer. I worked for -- against  
24 Ericsson. So I -- I -- you know, I worked for  
25 lots of companies and carriers involved in the --

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1 apparatus. And so depending on who the -- you  
2 know, Duke Energy wanted to operate with, they  
3 would -- you know, there could be CDMA cell  
4 phones, GSM cell phones, UMTS cell phones in this  
5 box, which would then transmit the data to Duke  
6 Energy. So I was involved in the building of --  
7 of all that equipment.

8 Q Any other companies that you can think  
9 of?

10 A That's about it right now.

11 Q Throughout your 40-plus years of  
12 experience, what key individuals have you worked  
13 with in the cellular, wireless technologies and  
14 telecommunications industry?

15 MR. HAWKINSON: Objection. Form.

16 THE WITNESS: I don't know of any key  
17 players. I mean, I worked for, you know,  
18 companies that design cell phones. You know,  
19 Apple, I didn't work directly with Steve Jobs, but  
20 I worked with -- you know, I interfaced with  
21 people at Apple.

22 I interfaced with engineers at many of  
23 the cellular companies in discussing some  
24 nonproprietary designs or applications in the  
25 network. I did that over the past probably 10 or

<p style="text-align: right;">Page 30</p> <p>1 15 years. So, you know, in my opinion, those were  2 key people.  3 BY MS. YANG:  4 Q Okay. Besides these key people from the  5 companies you worked with, can you think of  6 anybody else that you've worked closely with in  7 this field?  8 A No. I've just worked with a lot of  9 people.  10 Q And no names of any particular  11 individuals stand out?  12 A No.  13 Q You mentioned in your CV and I think  14 also earlier today that you have experience with  15 standards such as 3GPP; is that correct?  16 A Yes.  17 Q How familiar are you with all the 3GPP  18 standards?  19 A I'm familiar with the standards that I  20 was involved in. So standards that dealt with --  21 with handover procedures, standards that dealt  22 with handset designs, standards that dealt with  23 the physical layer of the transmission of the --  24 of the wireless signals between the -- the  25 transceiver and the handset.</p>	<p style="text-align: right;">Page 31</p> <p>1 And then in -- in doing that, I became  2 familiar with some of the backbone devices in, you  3 know, the 3G and 4G networks, including the -- you  4 know, the base station transceiver and the -- the  5 mobile switching system for 3G and the NOBs and  6 MMEs and PWGs for -- for the LTE. Didn't do a lot  7 of work in that area, but just in reading the  8 standards, understood how the network, you know,  9 works in general.  10 Q So you mentioned that you're familiar  11 with the standards you're involved in. Can you  12 describe what your involvement was with these  13 standards?  14 A Some of the patents were what they call  15 essential patents, so they were based on the  16 standards. So I looked at the -- if it was a --  17 an IPR case or if it was a invalidity case, I  18 would look at, you know, prior art. I would look  19 at the standards to see if the patent -- you know,  20 if claims in the patent were known before the  21 patent was issued, you know, and issue reports on  22 my opinions of whether the -- the patent was valid  23 or not valid. And a lot of that had to do with --  24 with what was in the standards.  25 Q Are any of the patents that were issued</p>
<p style="text-align: right;">Page 32</p> <p>1 to you standard essential patents?  2 A Not that I'm aware of.  3 Q Did you participate in any of the 3GPP  4 working groups?  5 A I -- way back in the -- probably the  6 late '90s, I was asked to review some -- some  7 pre-issued standards and just kind of give my  8 input. I don't really remember what -- what part  9 of the standards they were, but I do remember  10 looking at some of the standards and just  11 commenting on what I thought based on my  12 experience.  13 Q Do you remember which standards those  14 were?  15 A No, I think they were the -- probably  16 the GSM standards. Maybe the early -- early 3G  17 standards.  18 Q Do you know why the 3GPP standards  19 exist?  20 A Well, I -- just like any standards  21 exists, I would assume that it's -- it exists so  22 different manufacturers of equipment and different  23 manufacturers of handsets can all operate  24 interchangeably.  25 Q Are you familiar with the 802.11</p>	<p style="text-align: right;">Page 33</p> <p>1 standards?  2 A Yeah, I -- it's been a while since I  3 read them, but I'm -- I'm familiar with those  4 standards, yes.  5 Q Did you review any 802.11 standards in  6 preparation for your disclosures or the deposition  7 today?  8 A I think I looked at -- the only thing I  9 looked at was the -- the issue dates of the -- of  10 the various -- I think in particular 802.11a and  11 802.11b, and I also looked at the -- you know,  12 like the maximum transmit range and -- or maximum  13 transmit power that's allowable and the frequency,  14 whether it's, you know, 2.4 or 5 gigahertz, and,  15 you know, just basic, high-level stuff.  16 Q Do you know why the 802.11 standards  17 exist?  18 A They exist, you know, so people that  19 build equipment, you know, routers or -- or  20 gateways that -- that use the 802.11 standards can  21 again operate, and since they operate with a --  22 with a terminal -- communications terminal, they  23 have to be, you know, designed such that they can  24 be compatible together.  25 Q Besides looking at the issue dates for</p>

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1 the 802.11a and b standards, did you review any  
2 other 802.11 standards?

3 A No, not for this case. I -- I'm aware  
4 that there's many standards later, but I did not  
5 look at them for this case.

6 Q Based on your CV, you have experience  
7 with networks including GSM, GPRS and UMTS; is  
8 that correct?

9 A Yes.

10 Q Can you describe the extent of your  
11 experience?

12 A The experience is -- as far as the --  
13 the handset was when I was working on cases  
14 against Apple that dealt with the -- the early  
15 iPhones and iPads, working to make sure that they  
16 were compatible with, you know, the GSM network  
17 and the UMT networks as far as, you know,  
18 frequency and how the message -- the SMS and MMS  
19 messages are sent, the protocols. So I -- I would  
20 have looked at the standards related to those  
21 particular entities, you know, the -- the SMSC and  
22 the BTS and the MSC, and the handset and the  
23 antenna frequencies and modulation to verify  
24 that -- that everything is proper and that  
25 everything is compatible.

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1 the -- you know, the data network servers, and,  
2 you know.

3 I think one case involved, you know, the  
4 IP mobility protocols, and so there was -- there  
5 was tunneling, so I would have looked at that, you  
6 know, and analyzed the patents for that.

7 Q Do you have any experience with any  
8 other network components specific to GSM, GPRS or  
9 UMTS?

10 A I probably do. I just can't recall it  
11 right now.

12 Q Do you have any experience with the  
13 EPDG?

14 A What was that?

15 Q Do you have any experience with the EPDG  
16 component?

17 A No.

18 Q Are you aware that KAIFI and AT&T were  
19 involved in an earlier lawsuit concerning the same  
20 patent at issue in this case?

21 A Yes.

22 MS. YANG: I'm uploading a document  
23 titled Memorandum Opinion and Order from the case  
24 KAIFI LLC versus AT&T Corp. It's Case  
25 No. 2:19-cv-138-JRG, Docket No. 104. This will be

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1 Q Based on your CV, you have experience  
2 with system servers, routers and switches; is that  
3 correct?

4 A Not a lot of experience, but I did do  
5 some cases where I was, you know, looking at  
6 the -- at the routers and servers to -- I believe  
7 it was in an infringement case against -- not --  
8 not cellular carriers but against manufacturers of  
9 routers. So I would -- I would have looked at  
10 the -- the documents provided by the company  
11 producing the router and looking at the  
12 specifications.

13 Looking at the construction, you know,  
14 to see if there was any -- in the case maybe it  
15 involved copying, somebody copied the equipment.  
16 So I would -- I would have looked at the  
17 electronics and how it was designed to see if  
18 elements in the design were something that I felt  
19 was -- was designed or copied, you know.

20 Q Do you have experience with any other  
21 network components?

22 A Just in -- in analyzing the patents, you  
23 know, I -- I would have become familiar with  
24 the -- with the NOBs and the MMEs and -- and the  
25 gateways, the serving gateway, and the -- and

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1 marked as Exhibit 5.

2 (Blackburn Exhibit No. 5 was  
3 marked for identification.)

4 THE WITNESS: Okay, I have it.

5 BY MS. YANG:

6 Q Are you familiar with this document?

7 A Yes.

8 Q This is the court's claim construction  
9 order from the prior litigation against AT&T; is  
10 that correct?

11 A Yes.

12 Q And you reviewed this claim construction  
13 order from the AT&T case when preparing your  
14 disclosures and declarations in this case; is that  
15 correct?

16 A Yes.

17 Q You understand that some of the claim  
18 terms at issue here were already construed by the  
19 court in the AT&T case?

20 A Yes.

21 Q How closely did you read the court's  
22 claim construction order in the AT&T case?

23 A Very close.

24 Q Do you agree with all of the court's  
25 constructions in the AT&T case?

<p style="text-align: right;">Page 38</p> <p>1 A Yes.</p> <p>2 Q Did you know that KAIFI is proposing</p> <p>3 different constructions in at least two instances</p> <p>4 in this case?</p> <p>5 MR. HAWKINSON: Objection. Form.</p> <p>6 THE WITNESS: They were -- I think the</p> <p>7 wording was somewhat different, but I think the</p> <p>8 court's construction was correct.</p> <p>9 MS. YANG: I'm uploading a document</p> <p>10 titled Declaration of Brian T. Kelley, Ph.D.,</p> <p>11 filed in the KAIFI versus AT&amp;T case, Case No.</p> <p>12 2:19-cv-138. It's Docket 62-10. This will be</p> <p>13 marked as Exhibit 6.</p> <p>14 (Blackburn Exhibit No. 6 was</p> <p>15 marked for identification.)</p> <p>16 BY MS. YANG:</p> <p>17 Q Did you review Dr. Kelley's declaration</p> <p>18 submitted in support of KAIFI's claim construction</p> <p>19 in the AT&amp;T case when preparing your own</p> <p>20 disclosures and declarations?</p> <p>21 A Yes, I did.</p> <p>22 Q How closely did you read Dr. Kelley's</p> <p>23 declaration from the AT&amp;T case?</p> <p>24 A I read it once, pretty thoroughly from</p> <p>25 the -- from the start to the end. I reviewed, you</p>	<p style="text-align: right;">Page 39</p> <p>1 know, particular sections of it later. So I think</p> <p>2 I did a pretty -- pretty good job in reviewing it.</p> <p>3 I mean, I didn't, you know, review it totally</p> <p>4 totally, you know, looking at every single word</p> <p>5 and analyzing every word, but -- but I did review</p> <p>6 it and reviewed his opinions.</p> <p>7 Q And you did more than just review his</p> <p>8 opinions; you -- you, in fact, cite to Dr.</p> <p>9 Kelley's declaration throughout your own</p> <p>10 disclosures and declarations; is that correct?</p> <p>11 A Yes.</p> <p>12 Q Have you ever met Dr. Kelley?</p> <p>13 A No.</p> <p>14 Q Have you ever spoken with Dr. Kelley?</p> <p>15 A No.</p> <p>16 Q What are your impressions of</p> <p>17 Dr. Kelley's opinions?</p> <p>18 MR. HAWKINSON: Objection. Form.</p> <p>19 THE WITNESS: I pretty much agree with</p> <p>20 what he says. There are -- there are a few things</p> <p>21 he stated that I didn't agree with. But in</p> <p>22 general, regarding the construction of the claims</p> <p>23 at issue in this case, the T-Mobile case, I agreed</p> <p>24 with what he said.</p> <p>25 BY MS. YANG:</p>
<p style="text-align: right;">Page 40</p> <p>1 Q Do you believe that Dr. Kelley is a --</p> <p>2 is qualified to be an expert?</p> <p>3 MR. HAWKINSON: Objection. Form.</p> <p>4 THE WITNESS: I really don't have an</p> <p>5 opinion. I mean, I looked through his background</p> <p>6 and experience, and he looks like he -- you know,</p> <p>7 he's a -- he's a -- received his degree in</p> <p>8 electrical engineering. He got a master's degree,</p> <p>9 and he's been -- you know, he's got a doctorate</p> <p>10 degree, and he's been teaching in the school of</p> <p>11 engineering, and some of the areas that he's</p> <p>12 teaching has to do with -- with, you know,</p> <p>13 cellular systems and wireless LAN systems. So I</p> <p>14 think he would be pretty qualified.</p> <p>15 BY MS. YANG:</p> <p>16 Q You stated earlier that there are a few</p> <p>17 things that you didn't agree with from</p> <p>18 Dr. Kelley's declaration. Do you know what those</p> <p>19 are?</p> <p>20 A Not offhand. It was just -- it was</p> <p>21 comments that he made. You know, it was either in</p> <p>22 the declaration or it was in his deposition</p> <p>23 that -- that he made a comment that maybe I didn't</p> <p>24 think was 100 percent correct. I may have made</p> <p>25 the comment differently. But I don't remember</p>	<p style="text-align: right;">Page 41</p> <p>1 exactly what those were. I don't believe it had</p> <p>2 anything to do with the -- with the four terms</p> <p>3 that I'm construing in this case.</p> <p>4 Q Do you remember generally what you</p> <p>5 disagreed with?</p> <p>6 A No. It had to do with the -- the</p> <p>7 wireless local area network, and, you know, where</p> <p>8 it was located, indoors, outdoors, and something</p> <p>9 to do with that.</p> <p>10 Q Besides the claim construction briefing,</p> <p>11 the court's order and Dr. Kelley's declaration,</p> <p>12 did you review or consider any other materials</p> <p>13 from the AT&amp;T case?</p> <p>14 A From the AT&amp;T case?</p> <p>15 Q From the AT&amp;T case.</p> <p>16 A No, I believe that's it.</p> <p>17 Q Did you review any 3GPP standards in</p> <p>18 forming your opinions?</p> <p>19 A No. I only looked at the -- the</p> <p>20 standards to get some dates of when they were</p> <p>21 issued and when the information was, you know,</p> <p>22 available to the public. And so there was nothing</p> <p>23 in there that I used specifically to render my</p> <p>24 opinions. Most of that is from my own experience</p> <p>25 and knowledge of the -- of the networks and the</p>

<p style="text-align: right;">Page 42</p> <p>1 systems.</p> <p>2 Q So besides looking at the dates for the</p> <p>3 3GPP standards, you didn't substantively review</p> <p>4 any 3GPP standards in forming your opinions; is</p> <p>5 that correct?</p> <p>6 A No, I didn't. That's correct.</p> <p>7 MR. HAWKINSON: Objection. Form.</p> <p>8 BY MS. YANG:</p> <p>9 Q Are you familiar with what an SSID is?</p> <p>10 A Yes.</p> <p>11 Q What is an SSID?</p> <p>12 A I believe it's a -- what they call a</p> <p>13 service set ID. So it is a 32 character bit</p> <p>14 length that would have the information for the</p> <p>15 serving system, such as, you know, maybe the --</p> <p>16 the name of the -- of the network, the -- the IP</p> <p>17 address of the network, the -- any variables of</p> <p>18 the network, the security setup for the network.</p> <p>19 And so that would all be included in the 32</p> <p>20 characters of the SSID.</p> <p>21 Q How is an SSID used?</p> <p>22 MR. HAWKINSON: Objection. Form.</p> <p>23 THE WITNESS: You know, to my knowledge,</p> <p>24 I didn't do a lot of research on it. But my --</p> <p>25 from my experience and knowledge, the -- the</p>	<p style="text-align: right;">Page 43</p> <p>1 wireless LAN broadcasts, the system ID or this</p> <p>2 SSID at intervals that are -- that are variable,</p> <p>3 that can be set. And they're broadcast, and if a,</p> <p>4 in this case, a terminal handset were to receive</p> <p>5 those system IDs, it can determine whether or not</p> <p>6 to -- to connect with -- with the system.</p> <p>7 BY MS. YANG:</p> <p>8 Q Is it possible to have two networks with</p> <p>9 the same SSID?</p> <p>10 A Yes, you could have two networks in the</p> <p>11 same house that have the same ID.</p> <p>12 Q Is it possible to have two networks with</p> <p>13 the same SSID in different locations?</p> <p>14 A I guess you could, but it would be -- I</p> <p>15 mean, if -- if the person that had the system set</p> <p>16 up the ID and it was identical with another ID,</p> <p>17 you could, but normally you wouldn't want to do</p> <p>18 that.</p> <p>19 Q So you mentioned that an SSID allows a</p> <p>20 handset to connect to the network; is that</p> <p>21 correct?</p> <p>22 A The SSID is -- is part of the</p> <p>23 requirement for the determination of whether the</p> <p>24 handset is granted access to that system.</p> <p>25 Q If I just had the SSID, would my handset</p>
<p style="text-align: right;">Page 44</p> <p>1 know how to connect to the network?</p> <p>2 MR. HAWKINSON: Objection. Form.</p> <p>3 THE WITNESS: Well, I mean, what do you</p> <p>4 mean if you have -- if I just have the SSID?</p> <p>5 BY MS. YANG:</p> <p>6 Q So in other words, would it be possible</p> <p>7 for the network to route a call to someone's</p> <p>8 handset based only on the SSID?</p> <p>9 A No. There's other -- there's -- in this</p> <p>10 case, IP mobility allows for what they call a</p> <p>11 care-of address. You know, so if you're -- if</p> <p>12 you're roaming on a foreign network, let's say</p> <p>13 it's a wireless internet network that's</p> <p>14 broadcasting this SSID is the foreign network,</p> <p>15 then the handset would be given a care-of address.</p> <p>16 So the information that's normally routed to the</p> <p>17 home network gets routed or tunnelled to the</p> <p>18 foreign network, and then the foreign agent in</p> <p>19 that network would route it to the handset.</p> <p>20 So there's more needed than just the</p> <p>21 SSID. That's just the identification of the -- of</p> <p>22 the wireless LAN, and whether the handset or</p> <p>23 terminal -- communications terminal connects with</p> <p>24 that -- that system, you know, depends on</p> <p>25 what's -- what's stored in the handset.</p>	<p style="text-align: right;">Page 45</p> <p>1 Q Are you familiar with a Mac address?</p> <p>2 A Yes. I don't work that much with Mac.</p> <p>3 So...</p> <p>4 Q Is the SSID different than a Mac</p> <p>5 address?</p> <p>6 A I don't know. I mean, I just -- I know</p> <p>7 what an SSID is. I -- I do very little work</p> <p>8 with -- with Mac technology. But I know, you</p> <p>9 know, Mac devices have Mac addresses.</p> <p>10 Q Do you know what a Mac address is?</p> <p>11 A I wouldn't want to comment. I mean,</p> <p>12 it's just -- I assume it's an address of a Mac</p> <p>13 device.</p> <p>14 Q What would be an example of a Mac</p> <p>15 device?</p> <p>16 A Well, a Mac computer.</p> <p>17 Q So you had mentioned that you had</p> <p>18 reviewed the 802.11 standards for their</p> <p>19 publication dates.</p> <p>20 A Yes.</p> <p>21 Q Do you recall when those publication</p> <p>22 dates were?</p> <p>23 A I believe they were in the late '90s.</p> <p>24 '98, '99, somewhere around there.</p> <p>25 Q So the 802.11 standards existed prior to</p>



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1 the year 2000; is that correct?  
 2 A Yeah, I believe the 802.11, just -- just  
 3 plain 11, you know, was started back -- even maybe  
 4 in the '80s. I don't know. And then it wasn't  
 5 until the late '90s that the -- it was actually  
 6 implemented.

7 Q Do you know who publishes the 802.11  
 8 standards?

9 A IEEE.

10 Q Did the inventor of the '728 patent,  
 11 Professor Cho, publish the 802.11 standards?

12 A No. I don't know if he --

13 Q So he --

14 A I'm sorry. I was going to say I'm not  
 15 aware if he was involved in the standards. I  
 16 mean, just as I was involved in some of the 3GPP  
 17 standards, you know, looking at them, I don't know  
 18 if he was involved in that.

19 MS. YANG: I think we've been going for  
 20 about an hour, so I think now is a good time to  
 21 take a break.

22 THE VIDEOGRAPHER: We are off the  
 23 record. The time is 10:03.

24 (Recess.)

25 THE VIDEOGRAPHER: We are on the record.

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1 Q And when was the first time you saw the  
 2 '728 patent?

3 A That would have been probably sometime  
 4 around the first part of March. Or, actually, I  
 5 probably at least saw it when I was retained or  
 6 prior to my retaining in January 29th. So I would  
 7 have -- I would have had it in my possession  
 8 probably, you know, mid-January to late January,  
 9 but I really didn't look at it other than to  
 10 verify that it's in my area of expertise.

11 Q What was your reaction after reading the  
 12 patent?

13 MR. HAWKINSON: Objection. Form.

14 THE WITNESS: Well, I -- I thought it  
 15 was a -- a good patent.

16 BY MS. YANG:

17 Q Do you have any opinions on the '728  
 18 patent?

19 A About what, and specifically?

20 Q Did the '728 patent strike you as  
 21 inventive?

22 MR. HAWKINSON: Objection. Form.

23 THE WITNESS: Yes.

24 BY MS. YANG:

25 Q What was inventive about the '728

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1 The time is 10:13.

2 BY MS. YANG:

3 Q Mr. Blackburn, did you communicate with  
 4 your attorney during the break?

5 A No, I did not.

6 Q Did you communicate with anyone during  
 7 the break?

8 A No.

9 Q Did you review any notes during the  
 10 break?

11 A No.

12 MS. YANG: I'm uploading a copy of U.S.  
 13 Patent No. 6,922,728, which will be marked  
 14 Exhibit 7.

15 (Blackburn Exhibit No. 7 was  
 16 marked for identification.)

17 THE WITNESS: Okay, I've got it.

18 BY MS. YANG:

19 Q Have you read the '728 patent?

20 A Yes, I have.

21 Q How many times would you say you've read  
 22 the '728 patent?

23 A I've reviewed it in detail a couple of  
 24 times and probably just reviewed parts of it  
 25 another five or six times.

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1 patent?

2 MR. HAWKINSON: Same objection.

3 THE WITNESS: The -- in the abstract it  
 4 talks about an internet network connecting and  
 5 roaming system and providing internet  
 6 communication service to a dedicated  
 7 communications carried by a user moving indoors or  
 8 outdoors.

9 So the -- the roaming between cellular  
 10 systems had been known -- in fact, I worked on  
 11 several cases where you were roaming between  
 12 different NOBs or different BTSs and -- but in  
 13 this case where it's a roaming system between a --  
 14 a wireless indoor network and a wireless outdoor  
 15 internet network was kind of unique to me.

16 BY MS. YANG:

17 Q So you had mentioned you worked on other  
 18 cases where roaming was known. Can you describe  
 19 what roaming was -- was in those cases?

20 A So if you're -- if you're connected to  
 21 a -- to a cell tower on a particular sector, and  
 22 you either -- you either roam to another sector on  
 23 the same cell tower or you roam to another cell  
 24 tower, another base station, then you would -- you  
 25 would connect if you're on a call or whatever

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1 you -- you would remain connected and just switch  
2 cell towers.

3 Q Did you know who Professor Cho was  
4 before you saw the '728 patent?

5 A No.

6 Q Did you know who KAIST was before you  
7 saw the '728 patent?

8 A I have heard of the company, either in  
9 my, you know, review of -- of Korean patents for  
10 other cases, but I -- I do recall the name.  
11 Nothing really about what they did or who it was.

12 Q Do you remember when you first heard of  
13 KAIST?

14 A No. In this case I heard about it in  
15 mid-January.

16 Q Have you read any of Dr. -- or sorry,  
17 have you read any of Professor Cho's publications?

18 A No.

19 Q In your 40-plus years of experience,  
20 when was the first time you heard of a handover  
21 between a cellular network and a wireless LAN  
22 network?

23 A Probably when I read this patent.

24 Q So the first time you heard of a  
25 handover between a cellular network and wireless

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1 A I'm just estimating. It may -- it may  
2 have been before that or after -- you know, before  
3 2010.

4 Q Did it involve Professor Cho?

5 A No.

6 Q Did it involve KAIST?

7 A No.

8 Q Is it your opinion that the '728 patent  
9 is the first to ever disclose, quote, seamless  
10 switching between dissimilar networks?

11 MR. HAWKINSON: Objection. Form,  
12 outside the scope.

13 THE WITNESS: Yeah, I don't know. I  
14 mean, I just know that the claims -- when reading  
15 the claims, it sounds novel to me, and I wasn't  
16 aware of anything prior to this.

17 BY MS. YANG:

18 Q I'd like to have you turn to your  
19 disclosure, which we marked as Exhibit 1.

20 A Okay.

21 Q Paragraph 28.

22 A Okay.

23 Q You gave the opinion that the '728  
24 patent discloses a novel method or algorithm to  
25 achieve the seamless switching between dissimilar

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1 LAN network would have been in March of 2021?

2 A No, I mean regarding this case. I mean,  
3 I'm -- I'm aware of being able to switch between a  
4 wireless local area network and a -- and a  
5 cellular network, I mean for a long time. I mean  
6 it's -- you know, I've got -- I've got WiFi  
7 calling, which I've been using for a couple of  
8 years, so -- from AT&T, and so I knew about it.

9 Q And do you remember when you first heard  
10 about a handover generally between a wireless  
11 network and a wireless LAN network -- sorry. Let  
12 me say that again.

13 Do you remember generally when you first  
14 heard of a handover between a cellular network and  
15 a wireless LAN network?

16 A No. It was probably ten years ago, I  
17 would say.

18 Q Do you remember what context it was when  
19 you first heard of a handover between a cellular  
20 network and a wireless LAN network?

21 A No, I don't.

22 Q So you mentioned that about ten years  
23 ago was the first time you heard of a handover  
24 between a cellular network and a wireless LAN  
25 network; is that correct?

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1 networks; is that correct?

2 A Yes.

3 Q What is novel about this switching?

4 MR. HAWKINSON: Objection. Form.

5 THE WITNESS: That at the time of this  
6 patent, the -- the seamless switching between  
7 dissimilar networks was novel.

8 BY MS. YANG:

9 Q Does the word "seamless" appear anywhere  
10 in the specification?

11 A I'm not sure.

12 Q Does the word "seamless" appear anywhere  
13 in the file history?

14 A I'm not sure.

15 Q What does the word "seamless" mean to  
16 you in the context of your opinions?

17 MR. HAWKINSON: Objection. Form.

18 THE WITNESS: That the term means that  
19 if a communications terminal moves or is roaming  
20 between these two dissimilar networks, that the --  
21 the user of the communications terminal is not  
22 aware of any interruption in connection or that  
23 the -- the connection was even made.

24 I mean, there's -- there's -- the only  
25 indication might be that the -- you know, the



<p style="text-align: right;">Page 54</p> <p>1 local one that's on the handset might change</p> <p>2 from -- from the carrier to a -- a WiFi. But in</p> <p>3 general, it means that he -- he didn't have to --</p> <p>4 the user didn't have to do anything as far as push</p> <p>5 a button or select anything to -- to switch from</p> <p>6 one network to another.</p> <p>7 BY MS. YANG:</p> <p>8 Q So in your opinion, "seamless" means</p> <p>9 that the user doesn't have to do anything to</p> <p>10 switch from one network to another.</p> <p>11 MR. HAWKINSON: Object --</p> <p>12 THE WITNESS: Yeah, that's part of my --</p> <p>13 that's part of my --</p> <p>14 BY MS. YANG:</p> <p>15 Q Did the claims recite seamless</p> <p>16 switching?</p> <p>17 A I don't think that --</p> <p>18 MR. HAWKINSON: Objection. Form.</p> <p>19 THE WITNESS: Yeah, I don't think that</p> <p>20 word is used, but it's implied.</p> <p>21 BY MS. YANG:</p> <p>22 Q How is it implied?</p> <p>23 A From the words such as "uninterrupted"</p> <p>24 would tell me that if it's uninterrupted, then</p> <p>25 the -- the user wouldn't have had to do anything</p>	<p style="text-align: right;">Page 55</p> <p>1 as far as selecting one -- one system or the other</p> <p>2 system, that it just -- it just switched</p> <p>3 automatically, and it was -- it was a seamless</p> <p>4 switch where he wasn't aware of it. So it's --</p> <p>5 BY MS. YANG:</p> <p>6 Q So would you agree that the claim term</p> <p>7 "provides roaming of voice data signals provided</p> <p>8 to the user" means that the router in the '728</p> <p>9 patent provides switching the network path of the</p> <p>10 voice data communications automatically and</p> <p>11 without interruption?</p> <p>12 A Where are you reading that from?</p> <p>13 Q I'm just reading the -- I'm just asking</p> <p>14 you a question regarding the claim term of the</p> <p>15 '728 patent.</p> <p>16 A Okay. So which -- which -- we're</p> <p>17 looking at claim 1, and which part of it? Just in</p> <p>18 the preamble or what?</p> <p>19 Q So claim 1, that very last limitation</p> <p>20 that begins with "the router."</p> <p>21 A Yes.</p> <p>22 Q There's a clause that says: "Provides</p> <p>23 roaming of voice data signals provided to the</p> <p>24 user."</p> <p>25 Would you agree that that phrase means</p>
<p style="text-align: right;">Page 56</p> <p>1 provides switching the network path of the voice</p> <p>2 data communications automatically and without</p> <p>3 interruption?</p> <p>4 A Yes.</p> <p>5 Q Would you agree that the location</p> <p>6 register stores location information of the data</p> <p>7 communication terminal?</p> <p>8 A Yes.</p> <p>9 Q Would you agree that the router in the</p> <p>10 '728 patent determines the location of the data</p> <p>11 communication terminal stored in the location</p> <p>12 register?</p> <p>13 MR. HAWKINSON: Objection. Form.</p> <p>14 THE WITNESS: I would agree that it has</p> <p>15 something to do with it. I mean, it's -- it may</p> <p>16 not be the only element that's -- that's doing</p> <p>17 that.</p> <p>18 BY MS. YANG:</p> <p>19 Q Would you agree that the router makes</p> <p>20 its routing decision based on a determined</p> <p>21 location of the data communication terminal?</p> <p>22 MR. HAWKINSON: Objection. Form.</p> <p>23 THE WITNESS: That's -- I mean, that's</p> <p>24 one thing the router takes -- it takes into</p> <p>25 consideration when making a decision.</p>	<p style="text-align: right;">Page 57</p> <p>1 BY MS. YANG:</p> <p>2 Q Okay. I'd like to ask you a little bit</p> <p>3 more about the seamless switching.</p> <p>4 A Mm-hmm.</p> <p>5 Q Can we turn to Figure 2 of the '728</p> <p>6 patent.</p> <p>7 A Okay.</p> <p>8 Q Can you tell me which one of these</p> <p>9 routers performs the switching of the network</p> <p>10 path?</p> <p>11 A Well, since the -- the home agent or the</p> <p>12 foreign agent has something to do with it, because</p> <p>13 that's what would store the location of the</p> <p>14 communications terminal, you know, it looks like</p> <p>15 maybe router -- router 40 would have something to</p> <p>16 do with it.</p> <p>17 But this is just a -- you know, a</p> <p>18 possible implementation of a -- you know, there</p> <p>19 may be -- it's showing here three routers. There</p> <p>20 could be -- there could be more -- more routers or</p> <p>21 less routers. But -- but just looking at this</p> <p>22 figure, the -- you know, the home agent or foreign</p> <p>23 agent is attached to the router. So that would</p> <p>24 probably have something to do with it.</p> <p>25 Q So in your opinion, routers 41 and 42</p>

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1 don't provide the switching; is that correct?

2 A I don't know.

3 MR. HAWKINSON: Objection.

4 THE WITNESS: I wasn't asked to do an

5 analysis of routers and what the routers are

6 doing. So, you know, I really can't provide an

7 opinion on which -- which router is doing any

8 particular thing, you know.

9 BY MS. YANG:

10 Q Okay. Yep, I just want a clarification.

11 So you mentioned, though, that you

12 believe router 40 performs a switching because it

13 is attached to the home agent and foreign agent;

14 is that correct?

15 A I said it's possible that it's involved.

16 I didn't say it actually did the switching.

17 I mean, it looks like, you know, the --

18 the indoor -- the indoor gateway 100 has a -- has

19 a connection to that router. So it would make

20 sense that that router 40, if it routed

21 information, you know, that's coming in from --

22 let's say that's coming in from the internet 50,

23 that it -- that router would then switch it to

24 that path which is going to the indoor gateway. I

25 mean, it -- without doing a really complete

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1 technologies, were you familiar with any of those?

2 A Can you give me an example?

3 Q So if we take a look at Figure 2, were

4 you familiar with what a home agent/foreign agent

5 was?

6 A Yes.

7 Q What about Bluetooth?

8 A Yes.

9 Q Is there anything else, any other

10 components you were familiar with?

11 A I'm sure there are many in here that --

12 you know, just indoor network, outdoor network,

13 external network. You know, PDAs, local area

14 networks, wireless local area networks. I mean...

15 Q Anything else?

16 A PSTN, public switch telephone network.

17 Like I say, I'm sure there's lots more things in

18 here. There's -- it talks about PDAs. You know,

19 all kinds of different components.

20 Q Okay. And besides the components you've

21 just listed, can you think of anything else, any

22 other components you're familiar with?

23 A No.

24 Q Did you learn about these technology

25 components from the '728 patent?

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1 analysis, that would be my first observation.

2 Q Are you aware of any other references

3 that disclose seamless switching in the late --

4 late 1990s to early 2000s?

5 A I -- I know I've read that term and I've

6 seen that term. I'm not sure when it was or where

7 it was, but I'm sure there must be other

8 references that use the term "seamless switching."

9 Q Do you recall at all how long ago you

10 read those references?

11 A No.

12 Q Would it have been earlier than 2010?

13 A I don't know.

14 Q When you read the '728 patent, had you

15 heard of the technologies discussed in the patent?

16 A Some -- some of the terms I have. I

17 mean...

18 Q Which of the technologies were familiar

19 to you?

20 A Switching, roaming. You know,

21 connecting. You know, data communications

22 terminal or communications terminal. I mean,

23 those are all -- would be known to a person

24 skilled in the art.

25 Q What about some of the component

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1 A No.

2 Q Was it known that an indoor network

3 could be connected to the internet via a wire?

4 A Yes.

5 MR. HAWKINSON: Objection. Form.

6 THE WITNESS: Well, I -- I missed the

7 first part of your question.

8 BY MS. YANG:

9 Q My question was, was it known that an

10 indoor network could be connected to the internet

11 via a wire?

12 A Yes.

13 Q Does the '728 patent rely on

14 technologies from the 3GPP standards or the 802.11

15 standards?

16 MR. HAWKINSON: Objection. Form.

17 THE WITNESS: The 802.11 is part of the

18 wireless local area network family. And so I

19 believe the 802.11 is not actually cited in the

20 patent, but in -- to me as a -- as a person

21 skilled in the art, any time a wireless local area

22 network is mentioned, it would indicate to me that

23 it's speaking, you know, about 802.11 or it would

24 be speaking about a Bluetooth or any other, you

25 know, indoor wireless network.

<p style="text-align: right;">Page 62</p> <p>1 BY MS. YANG:</p> <p>2 Q Besides the 3GPP standards and the</p> <p>3 802.11 standards, you cite other articles and</p> <p>4 materials in your disclosure and declaration; is</p> <p>5 that correct?</p> <p>6 A Yes.</p> <p>7 Q Did you personally review all of the</p> <p>8 articles and materials cited in your disclosures</p> <p>9 and declaration?</p> <p>10 A I reviewed them. I didn't read them in</p> <p>11 detail.</p> <p>12 Q Is a 2G or 3G network an indoor network?</p> <p>13 A No.</p> <p>14 Q If the 2G and 3G networks are not indoor</p> <p>15 networks, are they outdoor wireless internet</p> <p>16 networks?</p> <p>17 A Yes, that's my opinion.</p> <p>18 Q To your knowledge, does the patent ever</p> <p>19 describe a 2G or 3G network as an indoor network?</p> <p>20 A Not that I'm aware of.</p> <p>21 Q Does the patent ever describe any</p> <p>22 cellular networks as indoor networks?</p> <p>23 A No, not that I'm aware of.</p> <p>24 Q So the patent only ever describes</p> <p>25 cellular networks as outdoor wireless internet</p>	<p style="text-align: right;">Page 63</p> <p>1 networks?</p> <p>2 A Yes.</p> <p>3 Q Would you agree that cellular networks</p> <p>4 have base stations?</p> <p>5 A Yes.</p> <p>6 Q Does a base station have a designated</p> <p>7 system ID?</p> <p>8 MR. HAWKINSON: Objection. Form.</p> <p>9 THE WITNESS: It doesn't have a system</p> <p>10 ID in the sense of a wireless local area network.</p> <p>11 I mean, it has an address of where it's located</p> <p>12 that's assigned by the carrier, but other than</p> <p>13 that, it doesn't have any -- as far as I know, it</p> <p>14 doesn't have any identifying ID that would be</p> <p>15 broadcast or shared.</p> <p>16 BY MS. YANG:</p> <p>17 Q So is it your opinion that a cellular</p> <p>18 network does not broadcast any system ID</p> <p>19 information?</p> <p>20 A That's my opinion, yes.</p> <p>21 Q If a base station doesn't broadcast</p> <p>22 system ID information, how do mobile devices or</p> <p>23 handsets connect to the base station?</p> <p>24 A If the handset is -- is authorized to</p> <p>25 connect with that system, the information on</p>
<p style="text-align: right;">Page 64</p> <p>1 the -- on the SIM card for AT&amp;T and T-Mobile, then</p> <p>2 the -- some of that information is sent to the</p> <p>3 base station when the handset is activated, and</p> <p>4 the -- if it's part of the network or if you're a</p> <p>5 subscriber of T-Mobile or AT&amp;T, then it -- it</p> <p>6 would be allowed to communicate through that cell</p> <p>7 system.</p> <p>8 Q So how does the handset communicate with</p> <p>9 the base station?</p> <p>10 MR. HAWKINSON: Objection. Form.</p> <p>11 THE WITNESS: I mean, every -- every</p> <p>12 cell system is a little different, and depending</p> <p>13 on your handset, you know, whether it's a 3G or 4G</p> <p>14 system, there's different messages that are sent</p> <p>15 back and forth between the handset and the base</p> <p>16 station.</p> <p>17 There's a, you know, request for</p> <p>18 connection. You know, request for -- and then if</p> <p>19 there's available bandwidth, the cell system could</p> <p>20 come back and say, you know, we're going -- we're</p> <p>21 going to assign you this channel.</p> <p>22 BY MS. YANG:</p> <p>23 Q So in these messages, does it include</p> <p>24 anything that identifies the network?</p> <p>25 A Not like a system ID, no. I mean, I</p>	<p style="text-align: right;">Page 65</p> <p>1 don't think there's anything in there that --</p> <p>2 there might be a -- something that says this is</p> <p>3 AT&amp;T or this is -- this is T-Mobile. But not that</p> <p>4 I'm aware of.</p> <p>5 Q So how does a cellular network identify</p> <p>6 the base station?</p> <p>7 MR. HAWKINSON: Objection. Form.</p> <p>8 THE WITNESS: How does a cellular</p> <p>9 network identify the base station?</p> <p>10 BY MS. YANG:</p> <p>11 Q Yes. How are the different -- how are</p> <p>12 the different base stations identified?</p> <p>13 A I'm sure they have some kind of address</p> <p>14 or -- I know in the -- if you look at the cell</p> <p>15 tower records, a -- a base station is identified</p> <p>16 by a -- by a combination of numbers, which</p> <p>17 probably indicates like an area code where the --</p> <p>18 where the base station is located, and what area</p> <p>19 and what switch it connects to, and that would be,</p> <p>20 you know, included in that -- in that five- or</p> <p>21 six-digit station identifier. But that's not</p> <p>22 broadcast to the handset.</p> <p>23 BY MS. YANG:</p> <p>24 Q So if this station ID is not broadcast,</p> <p>25 what information does the base station broadcast?</p>

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1 A The only time there -- there's a what I  
2 call a broadcast, and a broadcast is a -- is a  
3 communication to not just a single user but, you  
4 know, broadcast is like a radio broadcast or a --  
5 a system ID broadcast that anybody in the area can  
6 pick up that broadcast.

7 So it could -- you know, if there's an  
8 Amber Alert, it could broadcast information to all  
9 the cell phones, you know, Look out for this car  
10 and license plate number. But that's not  
11 broadcasting any kind of system ID information.

12 Q But broadcasting an Amber Alert doesn't  
13 allow a handset to know how to connect to the base  
14 station; is that correct?

15 A No, that's correct.

16 Q So does the base -- sorry. Let me start  
17 that again.

18 Does the base station broadcast any  
19 identifying information that will allow the  
20 handset to know to connect to that base station?

21 A Not in --

22 MR. HAWKINSON: Objection. Form.

23 THE WITNESS: Not in a format of a  
24 system ID. It's -- it's more in just a -- a --  
25 you know, if the handset is requesting service,

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1 for. You know, I mean, if there's some kind of  
2 proprietary information in there, I'm not aware of  
3 it.

4 Q So the five-, six-digit code that --  
5 would you consider that identifying a base  
6 station?

7 MR. HAWKINSON: Same objection.

8 THE WITNESS: That's -- that's used for  
9 allowing the, you know, network to know what  
10 base -- what base station the user connected to.  
11 It's usually included on the call detail records  
12 so a person that -- that analyzes the call detail  
13 records knows where that -- that base station is  
14 located.

15 BY MS. YANG:

16 Q So the five-, six-digit code allows a  
17 user to know which base station it was connected  
18 to; is that correct?

19 A No, I didn't say that. It allows the  
20 network to know what base station the user  
21 connected to. That -- that's recorded -- that  
22 would be recorded in the -- either the phone or  
23 data records for the carrier, so on a particular  
24 date at a particular time you would be able to  
25 know what cell tower or base station the -- the

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1 and the -- the base station sends back information  
2 that -- that the -- you know, acknowledgment of a  
3 request and -- and, you know, that type of  
4 exchange of information, but that again has  
5 nothing to do with any system ID information.

6 BY MS. YANG:

7 Q What is your definition of "system ID  
8 information"?

9 A System ID is a -- an ID that identifies  
10 the system or the network. So in a -- in a  
11 wireless local area network, specifically an  
12 802.11, the system ID would -- the ID would  
13 identify the -- the serving set or the -- the  
14 actual gateway and router that's doing the  
15 handling of the information.

16 Q Would the station ID of a base station  
17 identify the system or network?

18 MR. HAWKINSON: Objection. Form.

19 THE WITNESS: I didn't catch that.

20 BY MS. YANG:

21 Q Would the station ID of the base station  
22 identify the system or network?

23 A I don't know. I'm not privy to what  
24 the -- the five- or six-digit code that's assigned  
25 to each base station, what it -- what it stands

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1 user connected to.

2 Q So this five-, six-digit code can  
3 identify a specific base station; is that correct?

4 MR. HAWKINSON: Same objection.

5 THE WITNESS: Yeah, I don't know if it  
6 can identify a specific base station. It can  
7 identify, you know, an area code, an area where  
8 the -- where the base stations are located.

9 Yeah, yeah, I'm not -- you know, there's  
10 too many -- there's distributed systems, cellular  
11 systems where you have antennas located away from  
12 the base station, and so it becomes complicated  
13 on, you know, how to identify those -- those  
14 distributed systems.

15 So all I can say is that five- or  
16 six-digit number is just some kind of number used  
17 internally by the carrier to -- to know what base  
18 station the user connected to.

19 BY MS. YANG:

20 Q So is it your opinion that that five- to  
21 six-digit code allows the network to know what  
22 base station a user was connected to?

23 A Well, it's in the records. If you -- if  
24 you -- it's in the -- what they call a call detail  
25 record. It's in that record that's -- that's

<p style="text-align: right;">Page 70</p> <p>1 saved by the computers in -- in the network.</p> <p>2 So I'm not sure you can say the network</p> <p>3 knows, but at least the -- the -- there's a</p> <p>4 record -- there's a record that -- that a person</p> <p>5 can look at to determine where it connected to.</p> <p>6 Q The cell phone receives information</p> <p>7 broadcast from the base station that can tell a</p> <p>8 phone whether the network is a T-Mobile network or</p> <p>9 an AT&amp;T network; is that correct?</p> <p>10 A I assume it would do that. I'm not sure</p> <p>11 how it does it.</p> <p>12 Q Can a signal from a cellular network be</p> <p>13 received within an interior of a structure?</p> <p>14 A Yes.</p> <p>15 Q Would you agree that an indoor network</p> <p>16 has a shorter broadcasting range?</p> <p>17 A No, I --</p> <p>18 MR. HAWKINSON: Objection to form.</p> <p>19 THE WITNESS: I wouldn't agree to that.</p> <p>20 BY MS. YANG:</p> <p>21 Q Okay. I'd like to ask some -- some</p> <p>22 questions about the '728 patent again.</p> <p>23 A Okay.</p> <p>24 Q Would you agree that in the '728 patent</p> <p>25 there are no examples where the location register</p>	<p style="text-align: right;">Page 71</p> <p>1 is in the phone?</p> <p>2 A As far as examples, I don't know if</p> <p>3 there is an example, but I believe the -- the</p> <p>4 terminology or the -- the written description does</p> <p>5 not limit the register to any particular location.</p> <p>6 I know from my experience and my</p> <p>7 knowledge that -- that the location register part</p> <p>8 of it, some of it or all of it being located</p> <p>9 within the communications terminal would actually</p> <p>10 assist the network in -- in performing switching</p> <p>11 and roaming functions.</p> <p>12 Q Okay. Let's just walk through the</p> <p>13 patent together real quick. I'd like you to turn</p> <p>14 to Figure 1A of the '728 patent.</p> <p>15 And do you see on the right-hand side</p> <p>16 where it says "HA/FA Location Register" number 80.</p> <p>17 A Yes.</p> <p>18 Q And in Figure 1A of the '728 patent, the</p> <p>19 wireless terminal is all the way over on the left</p> <p>20 where it says "Terminal 10."</p> <p>21 A You're still on -- oh, yeah, there it</p> <p>22 is. Okay. Figure 10 -- or item 10?</p> <p>23 Q Item 10.</p> <p>24 A Yes.</p> <p>25 Q In Figure 1A of the '728 patent, is the</p>
<p style="text-align: right;">Page 72</p> <p>1 location register external to the data</p> <p>2 communication terminal?</p> <p>3 MR. HAWKINSON: Objection. Form.</p> <p>4 THE WITNESS: On this figure, it's just</p> <p>5 showing that there is -- there is an element</p> <p>6 called a home agent location register or a foreign</p> <p>7 agent location register, and its somehow attached</p> <p>8 to or related to router 43. But there's nothing</p> <p>9 that tells me that that location register has to</p> <p>10 be physically located any particular place. I</p> <p>11 mean, that line connecting the router and the</p> <p>12 location register just says that they're somehow</p> <p>13 related to each other.</p> <p>14 BY MS. YANG:</p> <p>15 Q Does this figure show that the location</p> <p>16 register is on the data communication terminal?</p> <p>17 A Physically it doesn't show it, no.</p> <p>18 Q Let's take a look at Figure 1B of the</p> <p>19 '728 patent.</p> <p>20 Similarly here, do you see where it says</p> <p>21 on the right "HA/FA Location Register," item 80?</p> <p>22 A Yes.</p> <p>23 Q And in Figure 1B of the '728 patent on</p> <p>24 the left, do you see where it says "Terminal,"</p> <p>25 item 10?</p>	<p style="text-align: right;">Page 73</p> <p>1 A Yes.</p> <p>2 Q In Figure 1B, is the location register</p> <p>3 external to the data communication terminal?</p> <p>4 A I mean, on the -- on this Figure 1B, it</p> <p>5 shows it being a separate circle. But again,</p> <p>6 that -- I believe that the home agent and foreign</p> <p>7 agent does not have to be a physical device. It</p> <p>8 could -- it could be a virtual implementation of</p> <p>9 that agent, of that location register.</p> <p>10 So I mean, it -- parts of it very well</p> <p>11 could be on the terminal. But in the figure, it's</p> <p>12 just depicting it as an element in this network.</p> <p>13 Q But in Figure 1B, the home agent and</p> <p>14 foreign agent is not in the terminal; is that</p> <p>15 correct?</p> <p>16 A I can't say that. All I can say is</p> <p>17 there is an element called "HA/FA Location</p> <p>18 Register" item number 80. But the implementation</p> <p>19 of where that location register could be is not</p> <p>20 specified here. It's just shown as an element.</p> <p>21 So if I were to take Figure 1B and</p> <p>22 design a -- a network, I could take part of that</p> <p>23 location register and put it in the terminal, even</p> <p>24 though it's not shown as being in the terminal.</p> <p>25 It's just shown as a block, a diagram number 80.</p>



<p style="text-align: right;">Page 74</p> <p>1 Q But you agree that Figure 1B does not</p> <p>2 show the home agent/foreign agent as being part of</p> <p>3 the terminal; is that correct?</p> <p>4 A It doesn't show it on the figure, but it</p> <p>5 doesn't mean that it's not in there.</p> <p>6 Q Can you point me to anywhere in the</p> <p>7 specification where it -- where it's disclosed</p> <p>8 that the home agent/foreign agent can be in the</p> <p>9 terminal?</p> <p>10 A It doesn't -- it doesn't say that it</p> <p>11 can't be. If it said that the home agent and</p> <p>12 foreign agent had to be located in the -- in the</p> <p>13 network -- in the outdoor network in this case or</p> <p>14 in the network, then I would say that's possibly</p> <p>15 okay.</p> <p>16 But it doesn't -- the specification</p> <p>17 doesn't say that the, you know, location register</p> <p>18 can't be located in the terminal. Parts of it can</p> <p>19 be located in the terminal. I mean, if it's a</p> <p>20 virtual -- if that router -- that HA/FA router is</p> <p>21 a virtual router, part of it could be in the</p> <p>22 software that's located in the terminal.</p> <p>23 Q So my question, though, is, is there</p> <p>24 anywhere in the specification for where it shows</p> <p>25 the HA/FA location register is in the terminal?</p>	<p style="text-align: right;">Page 75</p> <p>1 A It doesn't show it. But it doesn't say</p> <p>2 it can't be in there.</p> <p>3 Q Right. But my question is, does it</p> <p>4 show any -- does anywhere in the specification</p> <p>5 show where it can be?</p> <p>6 MR. HAWKINSON: Objection. Form.</p> <p>7 THE WITNESS: Well, it's showing right</p> <p>8 here it can be in Figure 1B -- in this -- in this</p> <p>9 particular embodiment, it can be in the -- in this</p> <p>10 network. It's showing as -- as bubble number 80.</p> <p>11 But that's just one particular embodiment of</p> <p>12 the -- of the patent.</p> <p>13 BY MS. YANG:</p> <p>14 Q But in this Figure 1B, is the home</p> <p>15 agent/foreign agent in the terminal?</p> <p>16 MR. HAWKINSON: Objection. Asked and</p> <p>17 answered.</p> <p>18 THE WITNESS: Yeah, I can't tell.</p> <p>19 BY MS. YANG:</p> <p>20 Q So sitting here today looking at</p> <p>21 Figure 1B, you can't tell that the home agent/</p> <p>22 foreign agent, which is the circle on the</p> <p>23 right-hand side, number 80, is in the terminal,</p> <p>24 this box on the left-hand side, number -- item</p> <p>25 number 10?</p>
<p style="text-align: right;">Page 76</p> <p>1 A No, I can't. If that -- if that</p> <p>2 location register, that HA/FA or FA router is a</p> <p>3 virtual router, then it's software. So part of</p> <p>4 the software could easily be in the terminal.</p> <p>5 Q Does the patent anywhere say that the</p> <p>6 home agent/foreign agent can be virtual?</p> <p>7 A I don't believe it says it, but the -- a</p> <p>8 person of skill in the art would know that the</p> <p>9 virtual routers existed.</p> <p>10 Q Okay. Let's look at Figure No. 2.</p> <p>11 And we see here again that there is an</p> <p>12 "HA/FA Location Register" number -- item number 80</p> <p>13 on the right-hand side. Do you see that?</p> <p>14 A Yes.</p> <p>15 Q And here we see on the left-hand side of</p> <p>16 Figure 2 of the '728 patent where it says</p> <p>17 "Terminal," item 10. Do you see that?</p> <p>18 A Yes, I do.</p> <p>19 Q In this embodiment in Figure 2, is the</p> <p>20 location register external to the data</p> <p>21 communication terminal?</p> <p>22 A I can't tell. Again, the same argument</p> <p>23 that the HA or FA register there, the router could</p> <p>24 be distributed to various locations, and one of</p> <p>25 those locations could be the -- the terminal.</p>	<p style="text-align: right;">Page 77</p> <p>1 Part of it could be in the terminal.</p> <p>2 Q Is that shown in Figure 2?</p> <p>3 A No, it's just shown as an FA -- HA or FA</p> <p>4 location register designated by number 80 that's</p> <p>5 connected to a router. But it doesn't tell me</p> <p>6 that that location register can't be in various</p> <p>7 places on this figure.</p> <p>8 Q But the figure itself doesn't show the</p> <p>9 HA/FA in the data communication terminal -- I'm</p> <p>10 not asking for possibilities. I'm asking does</p> <p>11 this figure show HA/FA location register in the</p> <p>12 terminal?</p> <p>13 MR. HAWKINSON: Objection. Form.</p> <p>14 THE WITNESS: You know, again, the</p> <p>15 circled number 80 shows that the -- there is an FA</p> <p>16 -- there is an HA or an FA location register as</p> <p>17 part of this implementation. And you know, if I</p> <p>18 were to take this Figure 2 and -- and design a</p> <p>19 system, there's nothing that says I can't put part</p> <p>20 of that location register in the terminal, based</p> <p>21 on this figure.</p> <p>22 BY MS. YANG:</p> <p>23 Q Right. But I'm not asking you for what</p> <p>24 possibilities could be from Figure 2. I'm asking</p> <p>25 you in Figure 2 itself, does it show the HA/FA in</p>

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1 the data communication terminal?

2 A It again --

3 MR. HAWKINSON: Objection.

4 THE WITNESS: It shows a required

5 element, which is an HA or FA location register,

6 that is related to a router and related to an

7 indoor wireless connection module 100, and that --

8 you know, I can't say that that -- parts of that

9 register cannot be in the -- in the module in the

10 connection terminal, communications terminal.

11 But, I mean, if you just looked at this

12 figure, and you -- you took some layperson who

13 said where is that HA/FA location register, they

14 might -- without knowledge, they would say, Yeah,

15 it shows it's right there in that bubble, and it's

16 connected to that router.

17 But you're not asking a layperson;

18 you're asking an expert. And so I'm saying that

19 if I were to implement that Figure 2, I could put

20 part of it in that communications terminal, and

21 that figure does not inhibit me from doing that.

22 BY MS. YANG:

23 Q So the -- you've mentioned that the

24 HA/FA location register is connected to the router

25 number 40; is that correct?

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1 parts of that router 40 could be located in the

2 indoor gateway. Parts of that router being

3 virtual could be located in the -- in the handset.

4 Q What about the VoIP by -- the VoIP

5 gateway, number -- item number 60, could that be

6 part of the data communication terminal?

7 A The fact that it says "VoIP server,"

8 that part of that router is probably limited to

9 that -- that network right there. So you

10 probably wouldn't -- you wouldn't see actually

11 parts of the routing in the handset. That -- that

12 router is -- is deciding where to send the voice

13 packets. You know, so it would be sent over

14 number 60. It says voice over IP gateway, so

15 that's where it would route it to.

16 Q So is it your opinion that item 60,

17 voice gateway -- sorry, voice over IP gateway is

18 not in the data communication terminal?

19 A No, it's -- it's most likely not. It's

20 most likely an interface to the public switch

21 telephone network. So the -- the voice over --

22 the voice packets that are traveling through

23 number 60 gets converted to -- somewhere along the

24 line it gets converted to audio in the -- in the

25 telephone network. So that would not be

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1 A Yes.

2 Q Is router number 40 part of the data

3 communication terminal?

4 A No. Well, it could be -- you know,

5 again, a router can be a virtual -- you know, that

6 router is also -- because of if it's a roaming

7 system and -- and let's say the indoor gateway

8 down here, number 100, is the foreign agent, then

9 the -- actually, the foreign agent location

10 register would probably be somehow connected with

11 that -- with that indoor gateway. And the router

12 that's shown as number 40, part of that router

13 would also be in the indoor gateway. So --

14 Q So, Mr. Blackburn, I'm not asking you to

15 speculate. I'm just asking you a simple question

16 of whether the router is part of the data

17 communication terminal in Figure 2.

18 A Again, the -- you're -- you're asking me

19 to interpret this figure only in one possible

20 implementation, and I'm saying that this

21 implementation as shown probably wouldn't work. I

22 mean, you wouldn't have a -- an HA/FA location

23 register both -- both at the same location

24 connected to the same router.

25 And so I'm saying that that -- parts --

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1 necessarily a function that was done in the

2 handset.

3 Q What about the indoor wireless

4 connection module? Do you see that in Figure 2 on

5 the left-hand side, it's a box with the letter A?

6 A Yes.

7 Q Is that in the data communication

8 terminal?

9 A That is, yes. That looks like -- if I'm

10 reading this right, so there is a -- so the --

11 the -- the handset would have a -- a connection

12 module, because it has to be able to send

13 wireless -- wireless signals either to the indoor

14 gateway or, in this case, it's showing it's going

15 to a BTS or it's going to a -- antenna number 32.

16 Q So in this figure the indoor wireless

17 connection module is shown to be in the data

18 communication terminal; is that correct?

19 A I'm not sure -- I'm not sure where it's

20 showing. I'm just saying in the communications

21 terminal, there is a -- a connection module.

22 Well, actually, since it says "Indoor Wireless

23 Connection Module," that's -- that's probably

24 talking more about the -- the indoor network than

25 a connection module.



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1 I'm not sure. This -- Figure 2 is kind  
2 of confusing.

3 Q What about the wireless LAN card? Is  
4 the wireless LAN card shown here in Figure 2 with  
5 the box labeled B, is that in the data  
6 communication terminal?

7 A That could be, because that's usually  
8 just a card that plugs into the back of a -- in  
9 this case it would be like a computer terminal.  
10 And so that there is a wireless card that would go  
11 into the computer, and -- but I'm not sure if  
12 this -- it just says "Wireless LAN Card."  
13 There's -- there's a wireless LAN card that could  
14 be in the -- I mean, this is -- this is old time  
15 here. This is early -- early days. So it's --  
16 all it's doing is providing a wireless function.  
17 So since a handset provides a wireless function,  
18 there is -- there could be a LAN card in a  
19 handset.

20 Q So if I'm looking at Figure 2 and I see  
21 this box labeled terminal item number 10, I see  
22 two smaller boxes that we just discussed, the  
23 indoor wireless connection module labeled A and  
24 wireless LAN card labeled B, that are drawn inside  
25 of the box labeled 10; is that correct?

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1 it possibly could be inside.

2 Q So is it your opinion that if the patent  
3 does not explicitly exclude something, that the  
4 patent claim can cover that?

5 A I'd have to look -- you know, I look at  
6 the specification as a whole and I look at the  
7 claim, and -- and my experience in this particular  
8 case, I know that parts of a location register can  
9 be in a communications terminal. It performs  
10 certain functions in there, and it helps the --  
11 the network to be more efficient.

12 Q But you haven't pointed me to anywhere  
13 in the specification where it expressly says that  
14 the location register can be in the data  
15 communication terminal; is that correct?

16 A No, I don't think it does, but it does  
17 not say it can't be in there. And so if I look at  
18 my -- if I look back at that time frame, and I  
19 said what was happening in handsets, and I've got  
20 a lot of experience with the Apple iPhones that I  
21 worked on, and there is nothing that precludes the  
22 location register or parts of that location  
23 register from being in that terminal.

24 Q So is it your opinion then that just  
25 because the patent specification doesn't

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1 A Yeah. In fact, now looking at  
2 number 10, it actually has on the bottom, it says  
3 "Terminal." So this would be what's in the  
4 terminal.

5 Q Okay. So we can tell from Figure 2  
6 pretty clearly that the boxes labeled A and B are  
7 in the terminal; is that correct?

8 A That's what I interpret this as.  
9 MR. HAWKINSON: Objection to form.  
10 THE WITNESS: Yeah.

11 BY MS. YANG:

12 Q Is the box labeled "HA/FA Location  
13 Register" drawn in the terminal, item 10?

14 A It's not drawn in there, but again, I --  
15 I stick with my opinion that the -- that the HA or  
16 FA location register or parts of that register  
17 could be implicated in the -- in the terminal  
18 number 10.

19 Q Are there any other examples in the '728  
20 patent where it shows a location register can be  
21 in the data communication terminal?

22 A I don't know if it specifically says  
23 that, but it does not say that it has to be  
24 outside of the -- of the terminal. So I interpret  
25 that, if it doesn't say it has to be outside, then

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1 explicitly exclude something, that it can be  
2 within the scope of a patent claim?

3 MR. HAWKINSON: Objection.

4 THE WITNESS: No, it's -- in this  
5 particular case, I'm looking at the -- what the  
6 claim says, what it doesn't say, and what my  
7 experience says and what my experience with  
8 handsets says, and I'm concluding that there's  
9 nothing to prevent parts of that location register  
10 from being in that terminal.

11 BY MS. YANG:

12 Q Is it your opinion that you could  
13 construe the scope of a claim to include something  
14 that is not expressly in the specification?

15 MR. HAWKINSON: Objection. Form.

16 THE WITNESS: I don't know. That's more  
17 getting toward the legal. I don't know about  
18 that.

19 BY MS. YANG:

20 Q Well, you've just given me an opinion  
21 that just because the patent specification doesn't  
22 expressly exclude the location register being in  
23 the data communication terminal, that the claim  
24 could cover that; is that correct?

25 A That's what I'm saying, yes. In this

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1 particular instance, yes.

2 Q So is it your opinion then that you can  
3 construe the scope of a claim to include something  
4 that is not in the specification?

5 MR. HAWKINSON: Objection. Form.

6 THE WITNESS: I'm not saying -- again,  
7 I'm saying in this particular instance, I'm  
8 applying my experience -- 40-plus years of  
9 experience and my experience with handsets in  
10 particular that what can and cannot go into a  
11 terminal.

12 And if I look into the mind of Dr. or  
13 Mr. Cho when he wrote this patent, I feel that he  
14 would feel the same thing, that parts of that  
15 location register -- just because he didn't draw a  
16 line over to the terminal, that part of that  
17 location register could be included in that  
18 terminal.

19 BY MS. YANG:

20 Q On what basis do you have that Dr. Cho  
21 or Professor Cho would have known that?

22 A Well, he wrote the patent, so he  
23 understands the technology. And, you know,  
24 location registers and registers that -- that  
25 store the location of the handset, you know -- you

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1 is that correct?

2 A He did what?

3 Q He knew to -- how to draw an indoor  
4 wireless connection module to be in the terminal;  
5 is that correct?

6 A Yes.

7 Q And he knew how to draw a wireless LAN  
8 card to be in the terminal; is that correct?

9 A Yes.

10 Q But he didn't draw the F -- HA/FA  
11 location register to be in the terminal; is that  
12 correct?

13 A That's correct, because the -- the  
14 indoor wireless connection module is not a virtual  
15 network. It's a -- it's a physical module that --  
16 that transmits wireless signals, and you can't do  
17 that virtually. Okay.

18 So I'm saying in -- there's -- the HA/FA  
19 location register being virtual is totally  
20 different than being a wireless LAN card, which is  
21 a physical implementation.

22 Q All right. Mr. Blackburn, I'm not  
23 asking you to speculate. I'm just asking you a  
24 simple question. Did he draw the HA/FA location  
25 register to be in the data communication terminal?

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1 know, were known. I mean, the -- the handsets  
2 performed functions that would require the  
3 location to be known.

4 Q So if Dr. Cho -- Professor Cho could  
5 have drawn a line or drawn a box around FA  
6 location register to include that in the terminal;  
7 is that correct? He could have drawn that.

8 A Well, if he did that, he would have had  
9 to draw in other lines. He would have had to draw  
10 parts of the router connected to 100, to the  
11 indoor gateway. He would have had to -- you know,  
12 it would have -- it would have complicated the  
13 figure.

14 And so I think the figure itself is --  
15 is good. It shows what the elements are and what  
16 the required elements are. And it's up to the  
17 person implementing this -- this -- this figure,  
18 you know, where that location register is going to  
19 go.

20 Q So if --

21 A And again, I say there's nothing that  
22 prevents part of that from being, you know, in  
23 that terminal.

24 Q So he knew how to draw an indoor  
25 wireless connection module to be in the terminal;

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1 A He didn't actually --

2 MR. HAWKINSON: Objection. Asked and  
3 answered.

4 THE WITNESS: He didn't draw a line like  
5 you're implying. No, he did not draw a line over  
6 there.

7 MS. YANG: Okay. I think we have just  
8 been about going for another hour. So I think  
9 we'll take another ten-minute break right now.

10 THE WITNESS: Okay.

11 MS. YANG: If that's okay with everyone.

12 MR. HAWKINSON: Sure.

13 THE VIDEOGRAPHER: We are off the  
14 record. The time is 11:14.

15 (Recess.)

16 THE VIDEOGRAPHER: We are on the record.  
17 The time is 11:23.

18 BY MS. YANG:

19 Q Mr. Blackburn, did you communicate with  
20 your attorney during the break?

21 A No, I did not.

22 Q Did you communicate with anyone during  
23 the break?

24 A No.

25 Q Did you review any notes during the

<p style="text-align: right;">Page 90</p> <p>1 break?</p> <p>2 A No.</p> <p>3 Q Looking back at claim 1 of the '728</p> <p>4 patent, would you agree that the location register</p> <p>5 stores the location information?</p> <p>6 A Yes.</p> <p>7 Q Would you agree that the router</p> <p>8 determines the location of the data communication</p> <p>9 terminal stored in the location register?</p> <p>10 MR. HAWKINSON: Objection. Form.</p> <p>11 THE WITNESS: Yes.</p> <p>12 BY MS. YANG:</p> <p>13 Q The claims do not say that the router</p> <p>14 determines the location of the data communication</p> <p>15 terminal stored in the data communication</p> <p>16 terminal; is that correct?</p> <p>17 A No, it doesn't specify where it's --</p> <p>18 where it's stored, just that it's stored in the</p> <p>19 location register.</p> <p>20 Q So at some point the location of the</p> <p>21 data communication terminal must be transmitted to</p> <p>22 the location register so the router can use the</p> <p>23 information; is that correct?</p> <p>24 A That's one -- one thing, yes.</p> <p>25 Q Is the router on the network?</p>	<p style="text-align: right;">Page 91</p> <p>1 A The router -- the router is -- is most</p> <p>2 likely on the -- in this case on the -- on the</p> <p>3 network, yes.</p> <p>4 Q How does the location information get to</p> <p>5 the router?</p> <p>6 A Well, the data -- the data communication</p> <p>7 terminal has the capability of -- of determining</p> <p>8 its location through either, you know, GPS,</p> <p>9 cellular triangulation, assisted GPS, you know,</p> <p>10 TrueCall, True -- PCM data, PCMD data.</p> <p>11 And so the -- the commu- -- the data</p> <p>12 communication terminal can determine its location,</p> <p>13 and -- and, you know, once it's determined its</p> <p>14 location, it has to -- you know, for anything, it</p> <p>15 has -- it has to store that somewhere.</p> <p>16 Q And where is that location information</p> <p>17 stored?</p> <p>18 A Well, I'm saying it's stored in a -- in</p> <p>19 a register inside the data communication terminal.</p> <p>20 And if that's its storing location, you could call</p> <p>21 it a location register.</p> <p>22 Q So would you agree that the data</p> <p>23 communication terminal stores its location in the</p> <p>24 location register?</p> <p>25 A Yes, it's stored -- the -- the location</p>
<p style="text-align: right;">Page 92</p> <p>1 of the data terminal is stored in the location</p> <p>2 register.</p> <p>3 Q And then the router determines location</p> <p>4 of that data communication terminal from the</p> <p>5 location information stored in the location</p> <p>6 register; is that correct?</p> <p>7 A Yes, mm-hmm.</p> <p>8 Q Is it your opinion that storing the</p> <p>9 location information can require two or more</p> <p>10 structures?</p> <p>11 A I'm not seeing -- where -- where are you</p> <p>12 getting the two structures at?</p> <p>13 Q Is -- so let me -- let me back up.</p> <p>14 So the location information is stored in</p> <p>15 the location register. Would you agree with that?</p> <p>16 A Yes.</p> <p>17 Q Can the location register be two or more</p> <p>18 structures, in your opinion?</p> <p>19 A It could be two or more -- two or more</p> <p>20 locations. I guess physical locations, so</p> <p>21 structures being in a router or in a terminal or</p> <p>22 in a network, those -- if you're -- those would be</p> <p>23 different structures, I assume is what you're</p> <p>24 talking about.</p> <p>25 Q How many bits does it take to store</p>	<p style="text-align: right;">Page 93</p> <p>1 location information of the data communication</p> <p>2 terminal?</p> <p>3 MR. HAWKINSON: Objection. Form.</p> <p>4 THE WITNESS: I wouldn't know exactly.</p> <p>5 It depends on the -- on the format and what is</p> <p>6 being stored, but not that much.</p> <p>7 BY MS. YANG:</p> <p>8 Q What would the average number of bits</p> <p>9 used to store the location information on -- of</p> <p>10 the data communication terminal be?</p> <p>11 A I have no idea. I mean, it's -- if</p> <p>12 you're talking about 8 bits to a byte, I would --</p> <p>13 you know, I mean, storing -- using -- using 20 or</p> <p>14 30 bytes to store information is nothing.</p> <p>15 Q In your -- in your opinion, to store</p> <p>16 approximately 20 or 30 bytes requires at least two</p> <p>17 or more locations?</p> <p>18 MR. HAWKINSON: Objection.</p> <p>19 THE WITNESS: No --</p> <p>20 MR. HAWKINSON: Misstates testimony.</p> <p>21 THE WITNESS: The -- the same</p> <p>22 information could be stored in the different</p> <p>23 places.</p> <p>24 BY MS. YANG:</p> <p>25 Q So is it your opinion that the 20 or 30</p>

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1 bytes are duplicated in different places?

2 A Could be.

3 Q Is it your opinion that at the time of

4 the '728 patent, the concept of distributed

5 location registers was well known?

6 A I believe so.

7 Q Does the '728 patent disclose in the

8 specification that the location register can be

9 distributed?

10 A I don't recall it using the word

11 "distributed," but it -- the fact that it -- it

12 doesn't limit it to any particular location. It

13 just says -- for instance, in the claim we were

14 just talking about, it says "stored in the

15 location register." It doesn't say stored in the

16 network location register. It doesn't say stored

17 in the data communication terminal location

18 register. It just says "stored in the location

19 register."

20 So there's nothing to prevent that

21 location register from being in multiple places

22 and possibly storing the same information.

23 Q But does the '728 patent expressly

24 disclose that the location register can be

25 distributed? Just a -- (inaudible).

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1 location register be wholly on the mobile device?

2 MR. HAWKINSON: Objection.

3 THE WITNESS: I don't know. I'd have to

4 analyze that to -- to know.

5 BY MS. YANG:

6 Q But it is your -- it is your opinion

7 that it's possible for the location register to be

8 in the mobile device. Is that correct?

9 A Well, I'm not saying the whole thing has

10 to be in there. I'm saying parts of it could be

11 in there.

12 Q And where would the other parts be?

13 A They would be distributed to somewhere

14 in -- in the routers in the network.

15 Q So is it your opinion that the location

16 register can be distributed between the mobile

17 device and the network?

18 A That's a possibility, yes.

19 Q So would you agree that a portion of the

20 location register must be on the network?

21 A I don't -- I don't know. I mean, the --

22 with a -- you know, virtual routers, depending on

23 where the router is, because the router is what

24 would have the parts of the location register, and

25 so I can't say exactly where that would be. If it

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1 A Repeat -- repeat that.

2 Q Does the '728 patent disclose that the

3 location register can be distributed?

4 A I don't know if it discloses it, but

5 again, as a person of skill in the art, and -- and

6 my understanding of the technology at that time

7 period, that would be something that would be, you

8 know, recognized as a possibility. I mean,

9 there's -- that wasn't something new.

10 Q So is it your opinion that the '728

11 patent does not state anywhere that the location

12 register can be distributed? Just a yes or no.

13 MR. HAWKINSON: Objection. Asked and

14 answered.

15 THE WITNESS: Yeah, I don't know if it

16 states it. It's just implying the fact that it

17 doesn't -- it doesn't limit it to any particular

18 place.

19 BY MS. YANG:

20 Q Could the location register be

21 distributed between the data communication

22 terminal and another network component?

23 A Yes.

24 Q What if the court decides that the

25 location register cannot be distributed, could the

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1 would be in the network or if it would be in a --

2 in a mainframe somewhere or if it would be in

3 just -- you know, in the -- I don't know.

4 Q But you agree that the location register

5 cannot be wholly in the data communication

6 terminal; is that correct?

7 A I think --

8 MR. HAWKINSON: Objection. Form.

9 THE WITNESS: You know, I don't know.

10 There could be an implement -- implementation

11 where it could be there.

12 MS. YANG: Okay. I am uploading an

13 article which is cited in your declaration. It's

14 titled "Towards a Flexible Functional Split for

15 Cloud-RAN Networks" by Andreas Maeder, et al. It

16 was also submitted with the claim construction

17 briefing as Docket 135-12.

18 And this will be marked as Exhibit 8.

19 (Blackburn Exhibit No. 8 was

20 marked for identification.)

21 THE WITNESS: Okay.

22 BY MS. YANG:

23 Q You cited to the Maeder article in your

24 declaration; is that correct?

25 A Yes, I believe this is the one in there.

<p style="text-align: right;">Page 98</p> <p>1 Q And you cited the Maeder article for</p> <p>2 support that a location register can be</p> <p>3 distributed; is that correct?</p> <p>4 A Correct.</p> <p>5 Q The Maeder article was published in</p> <p>6 2014; is that correct?</p> <p>7 A Yes.</p> <p>8 Q So the Maeder article is written for the</p> <p>9 5G and LTE environment; is that correct?</p> <p>10 A Let me look through this for a minute</p> <p>11 here. (Peruses document.)</p> <p>12 Yeah, I think I cited this because</p> <p>13 the -- even though it's a 2014 document, it -- it</p> <p>14 talks about the different layers in the -- in</p> <p>15 the -- like the OSI or the Mac device. And -- and</p> <p>16 the OSI has been around for a long, long time,</p> <p>17 having the different layers, the physical layer</p> <p>18 and the applications layer.</p> <p>19 And so I think in 2014, even though it's</p> <p>20 talking about -- you know, it's talking about the</p> <p>21 benefits and disadvantages of -- of centralized</p> <p>22 databases and registers, that it could have been</p> <p>23 applied to designs at the time of the '728 patent.</p> <p>24 Q So it's your opinion that an article</p> <p>25 published in 2014 in the context of a 5G and LTE</p>	<p style="text-align: right;">Page 99</p> <p>1 environment can describe the state of art for</p> <p>2 distributed storage in 2000, 2001?</p> <p>3 A If it references certain functions that</p> <p>4 were available at the time of the '728 patent or</p> <p>5 before, then I would think some of the information</p> <p>6 would be relevant.</p> <p>7 MS. YANG: Okay. I'm uploading an</p> <p>8 article also cited in your declaration titled</p> <p>9 "Mobile Agent- Based Performance Management for</p> <p>10 the Virtual Home Environment," by C. Bohoris,</p> <p>11 et al., and this was submitted as Docket 135-13,</p> <p>12 and will be marked Exhibit 9.</p> <p>13 (Blackburn Exhibit No. 9 was</p> <p>14 marked for identification.)</p> <p>15 THE WITNESS: Okay.</p> <p>16 BY MS. YANG:</p> <p>17 Q You cite the Bohoris article for support</p> <p>18 for your position that the location register can</p> <p>19 be distributed; is that correct?</p> <p>20 A Yes.</p> <p>21 Q The Bohoris article doesn't talk about</p> <p>22 location registers; is that correct?</p> <p>23 A No, it just talks about storage and --</p> <p>24 and -- I'm looking here for any particular code,</p> <p>25 any things that -- you know, so it talks about</p>
<p style="text-align: right;">Page 100</p> <p>1 decentralized functions and -- and even though it</p> <p>2 doesn't specifically say location register, it's</p> <p>3 my opinion that the -- the technology and the</p> <p>4 applications here could be applied to the location</p> <p>5 register.</p> <p>6 You know, again, it talks about the --</p> <p>7 the OSI model and -- which was well known back in</p> <p>8 the '80s when it was developed. And so I think</p> <p>9 one could take some of the evidence of this</p> <p>10 article and -- and apply it to a location</p> <p>11 register.</p> <p>12 Q But the Bohoris article doesn't disclose</p> <p>13 anything about a location register being</p> <p>14 distributed; is that correct?</p> <p>15 A It doesn't -- no, it doesn't</p> <p>16 specifically say anything about a location</p> <p>17 register, but it talks about the decentralization</p> <p>18 of -- of data and the benefits of doing that.</p> <p>19 MS. YANG: Okay. I'm uploading a</p> <p>20 document 3GPP TS 22.121, Version 4.0.0. This is</p> <p>21 Docket 135-14. This will be marked Exhibit 10.</p> <p>22 (Blackburn Exhibit No. 10 was</p> <p>23 marked for identification.)</p> <p>24 THE WITNESS: Okay. I've got it.</p> <p>25 BY MS. YANG:</p>	<p style="text-align: right;">Page 101</p> <p>1 Q So this is another reference that you</p> <p>2 cite in your declaration; is that correct?</p> <p>3 A Yes.</p> <p>4 Q What portions of this standard are you</p> <p>5 citing to to support your position that the</p> <p>6 location information can be distributed?</p> <p>7 A (Peruses document.) Well, it talks</p> <p>8 about this virtual home environment and the</p> <p>9 portability across network boundaries of -- of</p> <p>10 different concepts, and -- again, I -- I -- it</p> <p>11 doesn't specifically talk about a location</p> <p>12 register, but it does talk about the -- you know,</p> <p>13 the decentralization of functions that can be, you</p> <p>14 know, located in different -- different parts of</p> <p>15 the home in this case or wherever.</p> <p>16 So, I mean, it's just a -- it's just an</p> <p>17 article that shows that -- that decentralization</p> <p>18 or, you know, putting parts of network elements in</p> <p>19 different places have benefits, and that's...</p> <p>20 Q But -- so in your declaration, you don't</p> <p>21 cite anywhere specific in 22.121 that states the</p> <p>22 location register can be distributed; is that</p> <p>23 correct?</p> <p>24 A Not specifically the location register,</p> <p>25 but again, I think someone with -- with skill in</p>



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1 the art and understanding of -- of networks could  
2 apply this to a location register, the benefits  
3 of -- of -- that are discussed -- discussed in  
4 these different articles.

5 MS. YANG: Okay. I am uploading an  
6 article cited in your declaration titled  
7 "Distributed Router Architecture for Packet-Routed  
8 Optical Networks" by Michael Düser, et al. Docket  
9 135-15. This will be marked Exhibit 11.

10 (Blackburn Exhibit No. 11 was  
11 marked for identification.)

12 THE WITNESS: Okay.

13 BY MS. YANG:

14 Q You cite to this article in your  
15 declaration; is that correct?

16 A Yes.

17 Q And this article is about distributed  
18 routers, correct?

19 A Yes.

20 Q This article is not about distributed  
21 location registers, correct?

22 A Well, I think the reason I did this was  
23 because routers -- if you look at -- if you look  
24 up, you know, home agent and foreign agent, and  
25 you look up that they have location registers, and

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1 Q So let's talk a little bit more about  
2 the home agent and foreign agent.

3 A Okay.

4 Q If you can turn to the patent and look  
5 with me at column 9.

6 A Okay. What exhibit was that? So I  
7 can --

8 Q That's Exhibit 7.

9 A Okay. Okay.

10 Q And if we just look at column 9, lines  
11 12 to 15, it says -- it says that the home agent  
12 or foreign agent records a current location of a  
13 data communication subscriber.

14 Do you see that?

15 A Yes.

16 Q And just to confirm, it says "or." Is  
17 that correct? It doesn't say "and."

18 A It says "or."

19 Q Are these terms being used as they are  
20 in the mobile IP standard as disclosed in RFC  
21 2002?

22 MR. HAWKINSON: Objection. Form.

23 THE WITNESS: Yes, I believe the -- the  
24 home agent and the foreign agent records a  
25 location of the data communication terminal, and

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1 the definitions of -- of a home agent or foreign  
2 agent is a router. So whether the location  
3 register is part of that router or -- or is part  
4 of that router, this article, you know, talks  
5 about the distributed router.

6 So the fact that you're distributing a  
7 router function to different places, you know,  
8 could imply that you're also distributing the  
9 location register functions to different  
10 locations. So that's why it's cited.

11 Q I'm not -- Mr. Blackburn, I'm not asking  
12 for your interpretation of this article. I'm just  
13 asking simply, this article isn't about  
14 distributed location registers; is that correct?

15 A No, it's about distributed routers.  
16 Which include location registers.

17 MR. HAWKINSON: I just want to -- I'm  
18 sorry to have to say this, but there's gardening  
19 or something happening outside. So if folks can  
20 hear it on the Zoom and it gets annoying, I can go  
21 on mute until I need to object or say something.  
22 So please let me know if you hear ambient noise  
23 that's distracting.

24 THE WITNESS: Okay.

25 BY MS. YANG:

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1 that is part of the IP protocol, the mobility  
2 protocol.

3 BY MS. YANG:

4 Q And the mobility protocol is disclosed  
5 in the standard RFC 2002; is that correct?

6 A I believe that's it. I'm not sure.

7 Q Did you review the Mobile IP Protocol  
8 standard in preparation for your declaration or  
9 this deposition today?

10 A No.

11 Q As of 2001, were you aware of any home  
12 agents or foreign agents that were located on the  
13 mobile device itself?

14 A Again, since the -- the home agent and  
15 the foreign agent are routers, and they perform  
16 the function of -- of forwarding or passing  
17 information between networks, I think -- without  
18 going back and looking at what I -- what I did in  
19 the late '90s, the handset in the late '90s had  
20 inputs and how the handset was to be handed over  
21 in a cellular system, and helped determine, you  
22 know, when a hand -- when a switch between  
23 networks was required.

24 And so I think that the -- in that -- in  
25 that case, the handset would have parts of a home

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1 agent or a foreign agent location register  
2 included in that handset. Because it would have  
3 to know where it is, it would have to know, you  
4 know, where it's going, and it would have to know  
5 if it's -- if it needs to switch to a different  
6 network.

7 So I believe at -- at the time of this  
8 patent -- or before the time of this patent  
9 that -- that at least I knew that the home agents  
10 and foreign agents or parts of a virtual network  
11 could be in the home -- in the communications  
12 terminal.

13 Q In your declaration, do you cite to  
14 anywhere in RFC 2002 that expressly states the  
15 home agent and foreign agent can be located on the  
16 phone?

17 A I don't think I do, no.

18 MS. YANG: Okay. I'm uploading an  
19 article cited in your declaration titled "DHARMA:  
20 Distributed Home Agent for Robust Mobile Access"  
21 by Yun Mao. It's Docket 135-16, and this will be  
22 marked Exhibit 12.

23 (Blackburn Exhibit No. 12 was  
24 marked for identification.)

25 THE WITNESS: Okay.

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1 look at page 1198, Figure 3, it shows multiple  
2 agents there. And which determines the routing  
3 efficiency.

4 So I think in my -- in my declaration,  
5 I -- I talk about the reason you have -- you can  
6 have distributed home agents is for the increased  
7 efficiency of the routing, and that Figure 3 is  
8 showing that.

9 Q If we look at Figure 3 of the Mao  
10 article, it's showing that to route more  
11 efficiently, the home agent is chosen based on  
12 proximity.

13 But does it talk about anywhere that the  
14 home agent is distributed?

15 MR. HAWKINSON: Objection. Form.

16 THE WITNESS: Yeah, it -- I mean, it  
17 talks throughout the article -- it talks about,  
18 for instance, in -- lower in -- on that same page,  
19 it talks about: "New sessions can always use  
20 other available nodes as the home agent."

21 So that implies that there is -- there's  
22 multiple nodes that can -- that can act as a home  
23 agent. I'm not sure if it actually uses the word  
24 "distributed," but it does talk about having  
25 multiple home agents that's available to the -- to

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1 BY MS. YANG:

2 Q And you cite to this article in your  
3 declaration; is that correct?

4 A Yes.

5 Q And the Mao article, would you agree  
6 that the article discusses having multiple home  
7 agents?

8 A Are you asking me if it does?

9 Q Yes. Would you agree that the Mao  
10 article discusses having multiple home agents?

11 A I think from the title -- I'd have to  
12 look to the article, but it talks about  
13 distributed home agents. So it implies that  
14 there's -- there's more than one home agent,  
15 and --

16 Q Do you --

17 A -- I mean, if you can point to a part of  
18 it -- without me reading this, if you can point to  
19 a part where you found that there's multiple home  
20 agents, I can agree to that.

21 Q Well, so you -- you mention that this  
22 article talks about distributed home agents. Can  
23 you point me to where it talks about distributed  
24 home agents?

25 A (Peruses document.) Well, I mean if you

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1 the -- to the terminal.

2 BY MS. YANG:

3 Q In your opinion, does a mobile device  
4 have a known networking location?

5 A Yes.

6 Q Does a router have a known networking  
7 location?

8 A A router, which is part of the -- part  
9 of a local area -- a local -- a wireless local  
10 area network has a router, and the location of  
11 the -- of the network is identified by its SSID.  
12 And the -- the SSID may or may not include  
13 location data, but the -- the access node would --  
14 the location of the access node would be known.

15 Q Is your answer to the question, yes,  
16 does the -- does the router have a known  
17 networking location?

18 A Yes.

19 Q Is the mobile device's known networking  
20 location the same as a router's known networking  
21 location?

22 MR. HAWKINSON: Objection. Form.

23 THE WITNESS: I mean, if you're talking  
24 about GPS longitude, latitude, it would -- it  
25 would be different. If you're talking about an



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1 address, a home address, it could have the same  
2 location.

3 BY MS. YANG:

4 Q Okay. I'm going to turn back to your  
5 declaration for a second. In your declaration you  
6 state that -- and this is -- I'll turn you to a  
7 paragraph number. Paragraph 61.

8 A Which exhibit is that, to make sure I'm  
9 on -- I've got --

10 Q That's Exhibit 1.

11 A Okay, you're talking about the  
12 disclosure, not the declaration, right?

13 Q Yes. The disclosure, Exhibit 1.

14 A Okay. Paragraph 61?

15 Q Paragraph 61.

16 A Okay.

17 Q So you state that: "The registration  
18 data allows the location register to determine a  
19 change in the user's location."

20 Can you describe what you mean by  
21 registration data?

22 A Yeah, I would say what I meant here is,  
23 referring to these paragraphs above it, that  
24 the -- the registration data is the data that  
25 the -- the user or someone input into the

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1 So -- so what was the last part of your  
2 question?

3 BY MS. YANG:

4 Q That the data communication terminal  
5 must have been permitted access to the network.

6 A Yes, to be -- you have to register first  
7 before you're permitted access. And that's, you  
8 know, a one-time -- if you remain registered, then  
9 you don't have to reregister again.

10 Q So if I've been granted access to the  
11 indoor network, what happens if I disconnect and I  
12 leave? Am I still registered?

13 A Yes. As long as you don't delete the  
14 information from the user terminal, the  
15 information that you entered in there to register,  
16 your -- your name, your address, your ID, whatever  
17 it is, as long as it's still in there, then you're  
18 still registered.

19 Q So is it your opinion that if I have the  
20 SSID stored in my phone, that I am registered with  
21 the SSID?

22 A Yes.

23 Q So if I'm disconnected from the indoor  
24 network, it is your opinion that you are still  
25 registered, but do you still have access?

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1 communications terminal to register the ID of the  
2 particular wireless local area network.

3 So it would be -- it could be a system  
4 ID. It could be an ID number. It could be an  
5 address. It could be a -- it could be anything  
6 that identifies that -- that system.

7 Q And what's the definition of  
8 "registered"?

9 A "Registered" is kind of complex, but if  
10 you look at in terms of -- in terms of this patent  
11 here, I mean, I -- to me it -- "registered" means  
12 that -- regarding the wireless local area network,  
13 that if the registered ID is the same as the  
14 received system ID, then the communications  
15 terminal is granted access to the system.

16 Q So is it your opinion that to be  
17 registered, the data communication terminal must  
18 have already provided the registration data to the  
19 network and have been permitted access to the  
20 network?

21 MR. HAWKINSON: Objection. Form.

22 THE WITNESS: Well, you -- you're  
23 registered either by entering the system name or  
24 your name or your address or -- or some ID, so  
25 you're now registered for that particular network.

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1 A Yes. So let's take an example. If  
2 you -- if you're registered to access the -- the  
3 WiFi network at Starbucks and you've put in the  
4 password and all this stuff, and it's saved in  
5 your register, if you now -- if you leave and you  
6 disconnect, and then you come back later to that  
7 Starbucks, there is no further registration that's  
8 needed. It's just a -- authentication of your  
9 registered information against the Starbucks, and  
10 that you're an authorized user and you're granted  
11 access. You know, so there's no --

12 Q But --

13 A So there's no registration required  
14 again.

15 Q But if I'm disconnected from the  
16 network --

17 A Mm-hmm.

18 Q -- I don't currently have access to the  
19 network; is that correct?

20 A Well, it depends on how you're  
21 disconnected. If you left the -- if you left the  
22 range of the -- of the signal, and your -- your  
23 user terminal no longer can receive the system ID,  
24 then, yeah, you're disconnected. You're connected  
25 either to another network or, you know, cellular

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1 network, whatever. So you're disconnected from  
 2 that network.  
 3 Q So I could be -- if I'm out of range of  
 4 the network, I could be disconnected from that  
 5 network, but my phone could still store the indoor  
 6 system ID information; is that correct?  
 7 A Yeah, it would store it, unless you  
 8 deleted it.  
 9 Q So just because I'm registered with an  
 10 indoor network, it doesn't necessarily mean that  
 11 I've been granted access; is that correct?  
 12 MR. HAWKINSON: Objection. Form.  
 13 THE WITNESS: No, you've been granted  
 14 access.  
 15 BY MS. YANG:  
 16 Q But in a situation where I'm outside the  
 17 range and I am no longer connected to the network,  
 18 I no longer have access to the network; is that  
 19 correct?  
 20 A That's right. But if you -- if you --  
 21 if you walk back into Starbucks, you -- you have  
 22 access. You've already been granted access, but  
 23 now you have access.  
 24 Q So I'm just -- I'm just looking at the  
 25 scenario where I am no longer within the range of

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1 THE WITNESS: Yeah, it shows one  
 2 embodiment of it.  
 3 BY MS. YANG:  
 4 Q But this Figure 2 is really more than  
 5 just one embodiment, isn't it?  
 6 MR. HAWKINSON: Objection. Form.  
 7 THE WITNESS: I don't know. I mean,  
 8 it's -- it's -- the way it's drawn here, this is,  
 9 in my opinion, one embodiment. If you start  
 10 adding things or taking away things or -- then  
 11 you've got another embodiment.  
 12 BY MS. YANG:  
 13 Q Well, let's -- why don't you follow  
 14 along with me in column 3, lines -- let's see --  
 15 lines 48 to 51.  
 16 MR. HAWKINSON: I'm sorry. You said  
 17 we're in column 3?  
 18 MS. YANG: Yes, column 3.  
 19 MR. HAWKINSON: Okay.  
 20 BY MS. YANG:  
 21 Q And I'm just going to read you the  
 22 description here. It says: "When the data  
 23 communication terminal is located outdoors, the  
 24 location information is information on a  
 25 locational area; and when it is located

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1 the network.  
 2 A Okay.  
 3 Q At that point in time, I don't have  
 4 access to the network; is that correct?  
 5 A That's correct.  
 6 Q But at that point in time, I could still  
 7 have the indoor system ID information stored in my  
 8 phone; is that correct?  
 9 A That's correct.  
 10 Q And if I have the indoor system ID  
 11 information stored in my phone, I'm still  
 12 registered with that network; is that correct?  
 13 A Yes.  
 14 Q So then I -- it's possible that I don't  
 15 have access to the network but still be registered  
 16 with that network; is that correct?  
 17 A Yes.  
 18 Q Okay. I'd like to ask you a little bit  
 19 about Figure 2 again in the '728 patent.  
 20 A That was example -- Exhibit 7, correct?  
 21 Q Yes, Exhibit 7.  
 22 A Okay. Okay.  
 23 Q Would you agree that Figure 2 shows a  
 24 description of the invention of the '728 patent?  
 25 MR. HAWKINSON: Objection. Form.

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1 outdoors" -- sorry -- "located indoors, the  
 2 location information is indoor system ID  
 3 information."  
 4 Do you see that paragraph?  
 5 A Yes.  
 6 Q And do you see that paragraph is under  
 7 the heading "Summary of the Invention"?  
 8 A Yes.  
 9 Q So wouldn't you agree that the paragraph  
 10 I just read encapsulates a summary of the  
 11 invention?  
 12 MR. HAWKINSON: Objection. Form.  
 13 THE WITNESS: Well, it -- yes, I mean,  
 14 it's -- there's -- there's -- it's talking about  
 15 an indoor network and an outdoor network, and when  
 16 you're outdoors, it's locational -- the location  
 17 information is locational area, and when you're  
 18 indoors, it's system ID information. That is  
 19 correct.  
 20 BY MS. YANG:  
 21 Q Is there anything in the patent that  
 22 says the two, locational area and indoor system ID  
 23 information, have to be mutually exclusive?  
 24 A There's nothing that says that they  
 25 can't be stored together. If that's what you're

<p style="text-align: right;">Page 118</p> <p>1 asking.</p> <p>2 Q So is it your opinion that both the</p> <p>3 locational area and the indoor system ID</p> <p>4 information can both be stored?</p> <p>5 A Yes.</p> <p>6 Q So if I want to connect to the indoor</p> <p>7 network, is it true then that I have to at least</p> <p>8 have the indoor system ID information?</p> <p>9 A That's registered or that's received?</p> <p>10 Q That's received.</p> <p>11 A Yeah, so in order to connect to the</p> <p>12 indoor wireless system, the -- the system ID</p> <p>13 information must be received by the terminal.</p> <p>14 Q So I -- I must have the indoor system ID</p> <p>15 information, but I can also have the locational</p> <p>16 area, for example; is that correct?</p> <p>17 A Yes.</p> <p>18 Q And so just to confirm, at a minimum, I</p> <p>19 must have at least the indoor system ID</p> <p>20 information to connect to the indoor network; is</p> <p>21 that correct?</p> <p>22 A Yes.</p> <p>23 Q Now, if I were trying to connect to the</p> <p>24 outdoor wireless internet network, but I only had</p> <p>25 the indoor system ID information, would the system</p>	<p style="text-align: right;">Page 119</p> <p>1 work?</p> <p>2 MR. HAWKINSON: Objection. Form.</p> <p>3 THE WITNESS: Well, if you had the</p> <p>4 indoor system ID information, you would connect to</p> <p>5 the indoor network.</p> <p>6 BY MS. YANG:</p> <p>7 Q Would it be possible for me to connect</p> <p>8 to an outdoor wireless network with just the</p> <p>9 indoor system ID information?</p> <p>10 A I don't know. I mean, it's -- it's --</p> <p>11 if there -- if there's -- if there's no outdoor</p> <p>12 system available, then you wouldn't connect to it.</p> <p>13 If -- if there is one available, and you -- you</p> <p>14 receive the -- the -- you know, the locational</p> <p>15 area, or you had the locational area stored so the</p> <p>16 cell system can determine where you are and what</p> <p>17 tower to connect you to, then depending -- in this</p> <p>18 case if you're receiving both -- if you have both</p> <p>19 information, then it's going to look at, you know,</p> <p>20 things like system congestion, the signal or noise</p> <p>21 ratio, to determine which is the best system to</p> <p>22 connect to, because it has the option of, you</p> <p>23 know -- it would -- you know, if it's receiving</p> <p>24 the indoor information -- indoor system ID</p> <p>25 information, then the patent says that it will</p>
<p style="text-align: right;">Page 120</p> <p>1 connect to the indoor system.</p> <p>2 But depending on, you know, like I say,</p> <p>3 the signal or noise ratio, there's -- there's a</p> <p>4 problem with the indoor system network that you</p> <p>5 can't connect, then you would be connected to the</p> <p>6 outdoor system if -- if it's available.</p> <p>7 Q So you would agree with me, though, that</p> <p>8 in order to connect to the indoor network, I have</p> <p>9 to have the indoor system ID information; is that</p> <p>10 correct?</p> <p>11 A Yes.</p> <p>12 Q And then in order to connect to the</p> <p>13 outdoor wireless network, I would have to have the</p> <p>14 locational area; is that correct?</p> <p>15 A Yes.</p> <p>16 Q So if I didn't have the locational area,</p> <p>17 I wouldn't be able to connect to the outdoor</p> <p>18 wireless network; is that correct?</p> <p>19 A Well, it needs that location information</p> <p>20 to determine where you are so it can -- it can</p> <p>21 route -- the home agent can route, you know, the</p> <p>22 data to the correct cell tower, to the base</p> <p>23 station.</p> <p>24 Q Mm-hmm.</p> <p>25 A And so if it doesn't have that location</p>	<p style="text-align: right;">Page 121</p> <p>1 area, let's say your phone is turned off or</p> <p>2 something, and so it doesn't know where you are,</p> <p>3 then it's not going to -- it's not going to</p> <p>4 connect.</p> <p>5 Q Right. So in conclusion, what I'm</p> <p>6 hearing you say is that if you didn't have the</p> <p>7 locational area, you wouldn't be able to connect</p> <p>8 to the outdoor wireless internet network; is that</p> <p>9 correct?</p> <p>10 A That's correct. You need -- you need</p> <p>11 some information to -- to allow the network to</p> <p>12 know where you are to where -- where the terminal</p> <p>13 is.</p> <p>14 Q And conversely, the converse is true,</p> <p>15 right? So if you were trying to connect to the</p> <p>16 indoor network, and you didn't have the indoor</p> <p>17 system ID information, you wouldn't be able to</p> <p>18 connect to the indoor network; is that correct?</p> <p>19 A That's correct.</p> <p>20 Q Do you have the defendant's proposed</p> <p>21 construction in front of you for "Location</p> <p>22 information of the data communication terminal</p> <p>23 received through the indoor network," and also</p> <p>24 "Location information of the data communication</p> <p>25 terminal received through the outdoor wireless</p>

<p style="text-align: right;">Page 122</p> <p>1 internet network"?</p> <p>2 A I don't have it in front of me. Where</p> <p>3 would I find that, which document?</p> <p>4 Q Okay. Give me a second. I'm going to</p> <p>5 upload another document.</p> <p>6 Actually, let me ask the question a</p> <p>7 different way.</p> <p>8 A Mm-hmm.</p> <p>9 Q Go back to paragraph -- I go back to</p> <p>10 sort of -- sorry, column 3, lines 48 to 51 again.</p> <p>11 A Just a second. I disconnected, so I</p> <p>12 will pull it up again.</p> <p>13 Okay. That was paragraph 3?</p> <p>14 Q Lines 48 to 51.</p> <p>15 A Okay.</p> <p>16 Q So when the data communication terminal</p> <p>17 is located outdoors, the location information is</p> <p>18 information on a locational area; is that</p> <p>19 correct?</p> <p>20 A Yes.</p> <p>21 Q So based on our examples that we just</p> <p>22 went through of -- before, the location</p> <p>23 information of the data communication terminal</p> <p>24 received through the outdoor wireless network</p> <p>25 would be the locational area; is that correct?</p>	<p style="text-align: right;">Page 123</p> <p>1 A Yes.</p> <p>2 Q And so on the same -- along the same</p> <p>3 lines, the location information of the data</p> <p>4 communication terminal received through the indoor</p> <p>5 network would be the indoor system ID information;</p> <p>6 is that correct?</p> <p>7 A Yes.</p> <p>8 MR. HAWKINSON: Objection. Form.</p> <p>9 BY MS. YANG:</p> <p>10 Q And in any of those phrases, is there</p> <p>11 anything to suggest that the two have to be</p> <p>12 mutually exclusive? In other words, I can have</p> <p>13 both the locational area and the indoor system ID</p> <p>14 information stored; is that correct?</p> <p>15 A Yes, one or the other or both.</p> <p>16 Q What's a locational area?</p> <p>17 A It could be a -- a GPS coordinate. It</p> <p>18 could be a -- a cell sector. It could be</p> <p>19 information on where you are in the cell. It</p> <p>20 could be based on, you know, like angle arrival or</p> <p>21 time of arrival of signals to the cell tower. It</p> <p>22 could be a triangulation where multiple cell</p> <p>23 towers can determine an area where you are. So</p> <p>24 that would be some examples of the locational</p> <p>25 area.</p>
<p style="text-align: right;">Page 124</p> <p>1 Q And so in order to route packets to the</p> <p>2 outdoor wireless internet network, the data</p> <p>3 communication terminal would have to have one of</p> <p>4 these locational areas; is that correct?</p> <p>5 A The system -- the system would have to</p> <p>6 have something to know where to route that --</p> <p>7 those packets, to what base station, so it could</p> <p>8 reach the terminal. Because it's not going to</p> <p>9 send it to multiple cell towers in multiple</p> <p>10 locations. It's going to -- it's going to --</p> <p>11 based on that locational area, it's going to</p> <p>12 determine which cell tower it's going to send the</p> <p>13 information to.</p> <p>14 Q So based on your examples, if the</p> <p>15 locational area were a GPS coordinate, that would</p> <p>16 allow me to connect to an outdoor wireless</p> <p>17 internet network; is that correct?</p> <p>18 A Possibly.</p> <p>19 I mean, I don't know each -- each</p> <p>20 carrier might have different requirements for</p> <p>21 locational area. So if they don't have -- you</p> <p>22 know, if they aren't able to supply a GPS</p> <p>23 coordinate, and the handset is not able to</p> <p>24 determine a GPS coordinate, it may rely on, you</p> <p>25 know, triangulation or it may rely on, you know,</p>	<p style="text-align: right;">Page 125</p> <p>1 some assisted GPS type information. So it just</p> <p>2 depends on what the particular carrier is using.</p> <p>3 Q Okay. So just to confirm then, if I had</p> <p>4 just the GPS coordinate, which is an example of a</p> <p>5 locational area, I would not be able to connect to</p> <p>6 an indoor network; is that correct?</p> <p>7 MR. HAWKINSON: Objection. Form.</p> <p>8 THE WITNESS: If all you had was a GPS</p> <p>9 coordinate?</p> <p>10 BY MS. YANG:</p> <p>11 Q Yes.</p> <p>12 A No, you would need the system ID</p> <p>13 information.</p> <p>14 MS. YANG: No further questions.</p> <p>15 MR. HAWKINSON: I don't have -- I'm</p> <p>16 sorry. I don't have any questions either.</p> <p>17 THE VIDEOGRAPHER: Are we ready to go</p> <p>18 off the record?</p> <p>19 MS. YANG: Yes. I think -- I think that</p> <p>20 concludes things then, if there's no further</p> <p>21 questions from -- from Matt either.</p> <p>22 MR. HAWKINSON: No, we're done from --</p> <p>23 from my end.</p> <p>24 THE WITNESS: Okay.</p> <p>25 THE VIDEOGRAPHER: Thank you.</p>


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1 We are off the record. The time is  
2 12:15.  
3 (Whereupon, the deposition of  
4 THOMAS BLACKBURN was concluded  
5 at 12:15 p.m. Pacific Daylight  
6 Savings Time.)  
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1 NAME OF CASE:  
2 DATE OF DEPOSITION:  
3 NAME OF WITNESS:  
4 Reason Codes:  
5 1. To clarify the record.  
6 2. To conform to the facts.  
7 3. To correct transcription errors.  
8 Page \_\_\_\_\_ Line \_\_\_\_\_ Reason \_\_\_\_\_  
9 From \_\_\_\_\_ to \_\_\_\_\_  
10 Page \_\_\_\_\_ Line \_\_\_\_\_ Reason \_\_\_\_\_  
11 From \_\_\_\_\_ to \_\_\_\_\_  
12 Page \_\_\_\_\_ Line \_\_\_\_\_ Reason \_\_\_\_\_  
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1 CERTIFICATE OF CERTIFIED SHORTHAND REPORTER  
2 The undersigned Certified Shorthand Reporter  
3 does hereby certify:  
4 That the foregoing proceeding was taken before  
5 me remotely via Zoom videoconferencing at the time  
6 therein set forth, at which time the witness was  
7 duly sworn; That the testimony of the witness and  
8 all objections made at the time of the examination  
9 were recorded stenographically by me and were  
10 thereafter transcribed, said transcript being a  
11 true and correct copy of my shorthand notes  
12 thereof; That the dismantling of the original  
13 transcript will void the reporter's certificate.  
14 In witness thereof, I have subscribed my name  
15 this date: April 30, 2021.  
16  
17   
18 LESLIE A. TODD, CSR, RPR  
19 Certificate No. 5129  
20  
21  
22  
23  
24  
25

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1 ACKNOWLEDGMENT OF DEPONENT  
2 I, \_\_\_\_\_, do hereby  
3 certify that I have read the foregoing pages, and  
4 that the same is a correct transcription of the  
5 answers given by me to the questions therein  
6 propounded, except for the corrections or changes  
7 in form or substance, if any, noted in the  
8 attached Errata Sheet.  
9  
10 \_\_\_\_\_  
11 THOMAS BLACKBURN DATE  
12  
13  
14 Subscribed and sworn to  
15 before me this  
16 \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.  
17 My commission expires: \_\_\_\_\_  
18 \_\_\_\_\_  
19 Notary Public  
20  
21  
22  
23  
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